REMARKS

A. No Rejections Based on Prior Art

Applicants note there is no rejection based on prior art. The only rejections noted in the Office Action are based on obviousness-type double patenting in view of Ser. No. 10/825,249 and Ser. No. 10/825,483.

B. Response to Requirement for Information

a. Partial Objection To Request For Information

Applicants object to that portion of the Examiner's request which would purport to require Applicants to "identify the specific claims of those applications and/or patents which may present double patenting issues with the instant application claims". This goes beyond a request for information and purports to require a review of such information and rendering an opinion regarding such information. Such a request is improper. "The terms 'factual' and 'facts' are included in 37 CFR 1.105 to make it clear that it is facts and factual information, that are known to applicant, or readily obtained after reasonable inquiry by applicant, that are sought, and that requirements under 37 CFR 1.105 are not requesting opinions that may be held or would be required to be formulated by applicant." M.P.E.P. § 704.11 (emphasis added).

b. Response Notwithstanding Objection

Notwithstanding the foregoing objection to the request, Applicants appreciate the volume of applications and patents with similar subject matter. To assist the Examiner, Applicants have reviewed the patents and applications listed in the following tables. Enclosed is a document entitled "U.S. Patents And Patent Applications Identified In Response To Request For Information". This document recites the claims of all of these patents and applications listed in the following tables so that the Examiner can make an independent consideration of any potential double patenting issue.

Notwithstanding the foregoing, in the following section "C. Terminal Disclaimer", Applicants propose a listing of patents and applications for a terminal disclaimer. This listing is made to expedite prosecution and is made without any admission that any double patenting objection with respect to such patents or applications would be proper.

In the following tables, Applicants highlight the applications and patents listed on page 5 of the Office Action.

Patents And Applications With Entire Disclosure Claiming Priority To Ser. No. 09/398,991 Filed September 17, 1999 (Now U.S. Pat. No. 6,250,307)

Attorney Docket Suffix (Prefix 13033)	Serial No.	Filing Date	Patent No.	Issue Date
1US01	09/398,991	9/17/99	6,250,307	6/26/01
1USC1	09/872,699	6/1/01	6,523,543	2/25/03
1USC2	09/872,789	6/1/01	6,601,585	8/5/03
1USC3	09/872,545	6/1/01	6,626,181	9/30/03
1USC8	10/629,490	7/29/03	Pending	
1US11	10/938,255	9/9/04	Pending	
1US14	11/196,811	8/3/05	Pending	

Patents And Applications With A Portion Of The Disclosure Claiming Priority To Ser. No. 09/398,991 Filed September 17, 1999 (Now U.S. Pat. No. 6,250,307)

Attorney Docket Suffix (Prefix 13033)	Serial No.	Filing Date	Patent No.	Issue Date
1USC4	10/036,915	1/3/02	6,634,362	10/21/03
1USC5	10/121,166	4/11/02	6,578,580	6/17/03
1USC6	10/434,517	5/7/03	6,848,447	2/1/05
1USC7	10/449,186	5/30/03	Pending	
1USC9	10/824,673	4/15/04	Pending	
1US10	10/843,052	5/10/04	Pending	
1US12	10/948,352	9/23/04	Pending	
1US13	11/011,741	12/14/04	Pending	
1USI1	09/434,653	11/5/99	6,401,717	6/11/02
1USI2	09/513,042	2/25/00	6,453,905	9/24/02
1USI3	09/513,039	2/25/00	6,415,796	7/9/02
1USI4	09/513,432	2/25/00	6,450,169	9/17/02
1USI5	09/602,141	6/23/00	6,390,096	5/21/02
1USI6	09/814,471	3/21/01	6,513,530	2/4/03
1USI7	09/814,460	3/21/01	6,513,531	2/4/03
1USI8	09/815,154	3/21/01	6,523,541	2/25/03

1USI9	09/815,166	3/21/01	6,523,542	2/25/03
1USIA	09/814,456	3/21/01	6,516,806	2/11/03
1USIB	09/814,459	3/21/01	6,601,584	8/5/03
1USIC	09/992,277	11/14/01	6,502,574	1/7/03

Patents And Applications With Entire Disclosure Claiming Priority To The Earliest Claimed Priority Date Of The Present Application (i.e., priority claimed to Ser. No. 09/636,803 Filed August 10, 2000 (Now U.S. Pat. No. 6,431,174)

Attorney Docket Suffix (Prefix 13033)	Serial No.	Filing Date	Patent No.	Issue Date
4US01	09/636,803	8/10/00	6,431,174	8/13/02
4USC1	10/190,183	7/3/02	6,546,936	4/15/03
4USC2	10/394,887	3/21/03	6,742,524	6/1/04
4USC3	10/629,145	7/29/03	6,971,396	12/6/05
4USC4	10/825,029	4/14/04	Pending	
4USC5	10/825,249	4/14/04	Pending	
4USC6	11/197,271	8/3/05	Pending	

Patents And Applications With Entire Disclosure Claiming Priority To Ser. No. 10/066,967 Filed February 4, 2002

Attorney Docket Suffix (Prefix 13033)	Serial No.	Filing Date	Patent No.	Issue Date
5US01	10/066,967	2/4/02	Pending	

Patents And Applications With A Portion Of The Disclosure Claiming Priority To Ser. No. 10/066,967 Filed February 4, 2002

Attorney Docket Suffix (Prefix 13033)	Serial No.	Filing Date	Patent No.	Issue Date
5USI1	10/237,149	9/6/02	7,017,582	3/28/06
5USC1	10/825,483	4/14/04	Pending	
5USC2	11/179,184	7/12/05	Pending	
5USC3	11/196,690	8/3/05	Pending	

Patents And Applications Claiming Priority, In Whole Or Part, To Ser. No. 10/698,818 Filed October 31, 2003

Attorney Docket Suffix (Prefix 13033)	Serial No.	Filing Date	Patent No.	Issue Date
12US01	10/698,819	10/31/03	Pending	
12USI1	10/877,003	6/24/04	Pending	

C. **Terminal Disclaimer**

Applicants do not believe the present application is properly subject to a same invention-type double patenting rejection with respect to any of the foregoing.

Without admission that the present claims are obvious in view of the claims of the above cited patents or applications of assignee, and to expedite allowance of the present application, a terminal disclaimer is submitted herewith with respect to the following:

Attorney Docket Suffix (Prefix 13033)	Serial No.	Filing Date	Patent No.	Issue Date
4USC5	10/825,249	4/14/04	Pending	
1USC8	10/629,490	7/29/03	Pending	
1USC9	10/824,673	4/15/04	Pending	
4USC1	10/190,183	7/3/02	6,546,936	4/15/03

Applicants request reconsideration of the provisional obviousness-type double patenting rejection with respect to Ser. No. 10/825,483. All claims of that application are directed to an implant with a longitudinal axis placed transverse to an axis of the pharyngeal airway. No such limitations appear in the present claims. Further, such limitations would not be suggested by the present claims. Therefore, the claims of the two applications are patentably distinct.

D. **Prior Terminal Disclaimer**

Applicants remind the Examiner that in response to the July 1, 2005 Office Action, Applicants filed a terminal disclaimer with respect to the following commonly assigned patents:

Patent No.	Attorney Docket Suffix (Prefix 13033)
6,742,524	4USC2
6,626,181	1USC3
6,601,585	1USC2
6,431,174	4US01

E. Conclusion

Applicants submit this application is now in condition for allowance. Reconsideration and Notice of Allowance are solicited. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

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Date: 7/19/06

Timothy R. Conrad
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U.S. Patents And Patent Applications Identified In Response To Request For Information

Patents And Applications With Entire Disclosure Claiming Priority To Ser. No. 09/398,991 Filed September 17, 1999 (Now U.S. Pat. No. 6,250,307)

Docket Suffix (Prefix 13033)	Serial No.	Filing Date	Patent No.	Issue Date	Claims
1US01	09/398,991	9/17/99	6,250,307	6/26/01	1. A method for treating snoring of a patient, said method comprising: selecting an implant dimensioned so as to be implanted into a soft palate of said patient, said implant having mechanical characteristics for said implant, at least in combination with a fibrotic tissue response induced by said implant, to alter a dynamic response of said soft palate of said patient to air flow past said soft palate without application of force external to said soft palate; implanting said implant into said soft palate to alter said dynamic response. 2. A method according to claim 1 comprising providing said implant to have a mass sufficient to alter said dynamic response following said implantation without substantially impairing a function of said soft palate to close a nasal passage of said patient from a pharynx of said patient during swallowing. 3. A method according to claim 1 comprising providing said implant to dampen said dynamic response following said implantation without substantially impairing a function of said soft palate to close a nasal passage of said patient from a pharynx of said patient during swallowing. 4. A method according to claim 1 comprising providing said implant to stiffen said soft palate to alter said dynamic response following said implantation without substantially impairing a function of said soft palate to close a nasal passage of said patient from a pharynx of said patient during swallowing. 5. A method treating snoring of a patient, said method comprising:

					selecting an implant dimensioned so as to be implanted into a soft palate of said patient, said implant having mechanical characteristics for said implant, at least in combination with a fibrotic tissue response induced by said implant, to alter a dynamic response of said soft palate of said patient in response to air flow past said soft palate without application of force external to said soft palate, and said implant having a longitudinal dimension and a narrower transverse dimension and said implant being flexible along said longitudinal dimension, said implant further dimensioned so as to not substantially increase a bulk of said soft palate following implantation of said implant into said soft palate; and implanting said implant within said soft palate to alter said dynamic response with said longitudinal dimension extending in a path generally from a front of said patient toward a back of said patient. 6. A method for treating snoring of a patient, said method comprising: selecting an implant dimensioned so as to be implanted into a soft palate of said patient, said implant having mechanical characteristics for said implant, at least in combination with a fibrotic tissue response induced by said implant, to alter a dynamic response of said soft palate of said patient in response to air flow past said soft palate without application of force external to said soft palate, and said implant having a longitudinal dimension and a narrower transverse dimension and said implant being flexible along said longitudinal dimension, and said implant having a stiffness selected to stiffen said soft palate to alter said dynamic response following said implantation without substantially impairing a function of said soft palate to close a nasal passage of said patient from a pharynx of said patient during swallowing, said implant further dimensioned so as to not substantially increase a bulk of said soft palate following implantation of said implant into said soft palate; implanting said implant within said soft palate to alter said dynamic response with said longitudinal dimension extending in a path generally from a front of said patient toward a back of said patient. 7. A method according to claim 6 wherein said stiffness is adjustable.

					8. A method according to claim 7 wherein said implant includes a housing having an interior space to receive a selected one of a plurality of inserts of varying stiffness. 9. A method according to claim 7 wherein said implant includes a housing having an interior space to receive a selected number of a plurality of inserts. 10. A method according to claim 7 wherein said implant is a bladder having an enclosed interior volume to receive a selected amount of a fluid to alter a stiffness of said bladder in response to an amount of said fluid in said volume. 11. A method according to claim 7 wherein said implant is a bladder having an enclosed interior volume containing a fluid with a stiffness of said bladder adjustable in response to a stiffening agent admitted to said fluid. 12. A method according to claim 5 wherein said implant is configured to a greater deflection resistance in one direction than in an opposite direction. 13. A method according to claim 5 wherein said implant has a spring constant selected to stiffen said palate. 14. A method according to claim 1 wherein said implant is dimensioned to expand a geometry of the soft palate by an amount sufficient to alter an aerodynamic response to airflow over the soft palate. 15. An apparatus for treating snoring of a patient suffering from snoring attributable, at in least in part, to a snoring sound generating oscillation of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of bio-compatible material sized to be embedded within said soft

					palate; said implant having mechanical characteristics for said implant, at least in combination with a fibrotic tissue response induced by said implant and without application of force external to said soft palate, to alter said dynamic response without substantially impairing a function of said soft palate to close a nasal passage of said patient from a pharynx of said patient during swallowing; and said implant being flexible along said longitudinal dimension, and said implant not susceptible to substantial expansion and contraction in response to contraction and relaxation of muscles of the soft palate. 16. An apparatus according to claim 15 wherein said implant includes a surface adapted for tissue in-growth. 17. An apparatus according to claim 16 wherein at least an outer surface of said implant is a polyester. 18. An apparatus according to claim 15 wherein said implant is elastic to be biased toward a rest position following bending of said implant along said longitudinal axis. 19. An apparatus according to claim 15 wherein said implant includes a radiopaque marking. 20. An apparatus according to claim 15 wherein said implant includes a housing with inserts for varying a stiffness of said implant. 21. An apparatus according to claim 15 wherein said implant is an injectable polymer injected into said soft palate.
1USC1	09/872,699	6/1/01	6,523,543	2/25/03	1. A method for treating snoring of a patient, said method comprising: selecting an implant dimensioned so as to be implanted into a soft palate of said patient, said implant formed of a material selected to induce a fibrotic response from

					living tissue in contact with said implant; implanting said implant into said soft palate with said implant in contact with living tissue within said soft palate; leaving said implant within said soft palate to induce a fibrotic tissue response sufficient to alter a dynamic response of said soft palate to air flow past said soft palate without application of force external to said soft palate. 2. A method according to claim 1 comprising selecting said implant to have a longitudinal dimension and a narrower transverse dimension and said implant being flexible along said longitudinal dimension and implanting said implant within said soft palate with said longitudinal dimension extending in a path generally from a front of said patient toward a back of said patient. 3. A method according to claim 1 wherein said implant has a stiffness selected to stiffen said soft palate to alter said dynamic response following said implantation without substantially impairing a function of said soft palate to close a nasal passage of said patient during swallowing. 4. A method according to claim 1 wherein said implant includes a surface adapted for tissue in-growth. 5. A method according to claim 4 wherein at least an outer surface of said implant is a polyester. 6. A method according to claim 1 wherein said implant includes a radiopaque marking. 7. A method according to claim 1 wherein said implant is an injectable polymer injected into said soft palate.

					8. An apparatus for treating snoring of a patient suffering from snoring attributable, at least in part, to a snoring sound generating oscillation of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of bio-compatible material sized to be embedded within said soft palate and formed of a material selected to induce a fibrotic response from living tissue in contact with said implant in an amount sufficient to alter a dynamic response of said soft palate to air flow past said soft palate without application of force external to said soft palate. 9. An apparatus according to claim 8 wherein said implant has a longitudinal dimension and a smaller transverse dimension, said implant being flexible along said longitudinal dimension. 10. An apparatus according to claim 8 wherein said implant includes a surface adapted for tissue in-growth. 11. An apparatus according to claim 10 wherein at least an outer surface of said implant is a polyester. 12. An apparatus according to claim 8 wherein said implant includes a radiopaque marking. 13. An apparatus according to claim 8 wherein said implant is an injectable polymer injected into said soft palate.
1USC2	09/872,789	6/1/01	6,601,585	8/5/03	1. A method for treating snoring of a patient, said method comprising: selecting an implant dimensioned so as to be implanted into a soft palate of said patient, said implant formed of a flexible material formed to define an implant

					perimeter having a rest geometry and defining an internal area when said implant is at rest, said implant having mechanical characteristics for said implant, at least in combination with a fibrotic tissue response induced by said implant, to alter a dynamic response of said soft palate to air flow past said soft palate without application of force external to said soft palate; collapsing said implant to a collapsed state to narrow said implant perimeter; implanting said implant in said collapsed state into said soft palate with said implant in contact with living tissue within said soft palate; permitting said implant to expand toward said rest state within said soft palate; leaving said implant within said soft palate. 2. A method according to claim 1 comprising selecting said implant to have a longitudinal dimension and a narrower transverse dimension and said implant being flexible along said longitudinal dimension and implanting said implant within said soft palate with said longitudinal dimension extending in a path generally from a front of said patient toward a back of said patient. 3. A method according to claim 1 wherein said implant has a stiffness, at least in combination with said fibrotic tissue response, selected to stiffen said soft palate to alter said dynamic response following said implantation without substantially impairing a function of said soft palate to close a nasal passage of said patient from a pharynx of said patient during swallowing. 4. A method according to claim 3 wherein said implant has a low stiffness insufficient to stiffen said soft palate to alter said dynamic response following said implantation without contributing stiffness of said fibrotic tissue response. 5. A method according to claim 1 wherein said implant is formed at least in part from nitinol.

					6. A method according to claim 1 wherein said implant includes a surface adapted for tissue in-growth. 7. A method according to claim 6 wherein at least a portion of said implant is a polyester. 8. A method according to claim 1 wherein said implant includes a radiopaque marking. 9. A method according to claim 1 wherein said implant is an injectable polymer injected into said soft palate. 10. A method according to claim 1 wherein said implant is implanted with a plane of said implant generally parallel to an anterior-posterior plane of said patient. 11. A method according to claim 1 wherein said implant is inserted with said internal area uncovered and open to surrounding tissue. 12. A method according to claim 1 wherein said implant is completely implanted into said soft palate. 13. A method according to claim 1 wherein said implant is urged toward said rest state by a natural bias of a material of said implant. 14. An apparatus for treating snoring of a patient suffering from snoring attributable, at least in part, to a snoring-sound-generating oscillation of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of bio-compatible material dimensioned so as to be implanted into said soft palate, said implant formed of a flexible material formed to define an implant

					perimeter having a rest geometry and surrounding an internal area when said implant is at rest, said implant having mechanical characteristics for said implant, at least in combination with a fibrotic tissue response induced by said implant, to alter said dynamic response of said soft palate to air flow past said soft palate without application of force external to said soft palate; said implant collapsible to a collapsed state to narrow said implant perimeter during implantation into said soft palate and expandable within said soft palate toward said rest geometry. 15. An implant according to claim 14 wherein said implant has a longitudinal dimension and a smaller transverse dimension, said implant being flexible along said longitudinal dimension. 16. An apparatus according to claim 14 wherein said implant is formed at least in part from nitinol. 17. An apparatus according to claim 14 wherein said implant includes a surface adapted for tissue in-growth. 18. An apparatus according to claim 17 wherein at least an outer surface of said implant is a polyester. 19. An apparatus according to claim 14 wherein said implant includes a radiopaque marking. 20. An apparatus according to claim 14 wherein said implant is an injectable polymer injected into said soft palate. 21. An apparatus according to claim 14 wherein said implant is sized to be implanted with a plane of said implant generally parallel to an anterior-posterior plane of said patient.

					22. An apparatus according to claim 14 wherein said internal area is uncovered and open to surrounding tissue following implantation. 23. An apparatus according to claim 14 wherein said implant is sized to be completely implanted into said soft palate. 24. An apparatus according to claim 14 wherein said implant is urged toward said rest state by a natural bias of a material of said implant.
1USC3	09/872,545	6/1/01	6,626,181	9/30/03	1. A method for treating snoring of a patient, said method comprising: selecting an implant dimensioned so as to be implanted into a soft palate of said patient, said implant having a stiffness selected for said implant to alter a dynamic response of said soft palate of said patient in response to air flow past said soft palate without application of force external to said soft palate, and said implant having a longitudinal dimension and a narrower transverse dimension and said implant being flexible along said longitudinal dimension; and implanting said implant within said soft palate to alter said dynamic response with said longitudinal dimension extending in a path generally from a front of said patient toward a back of said patient. 2. A method according to claim 1 wherein said implant is formed at least in part from nitinol. 3. A method according to claim 1 wherein said implant includes a surface adapted for tissue in-growth. 4. A method according to claim 3 wherein at least a portion of said implant is a polyester. 5. A method according to claim 1 wherein said implant includes a radiopaque marking.

					6. A method according to claim 1 wherein said implant is an injectable polymer injected into said soft palate. 7. A method according to claim 1 wherein said implant is completely implanted into said soft palate. 8. An apparatus for treating snoring of a patient suffering from snoring attributable, at in least in part, to a snoring sound generating oscillation of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of bio-compatible material sized to be embedded within said soft palate; said implant having a stiffness for said implant, without application of force external to said soft palate, to alter said dynamic response without substantially impairing a function of said soft palate to close a nasal passage of said patient from a pharynx of said patient during swallowing; and said implant being flexible along said longitudinal dimension, and said implant not susceptible to substantial expansion and contraction in response to contraction and relaxation of muscles of the soft palate. 9. An implant according to claim 8 wherein said implant has a longitudinal dimension and a smaller transverse dimension, said implant being flexible along said longitudinal dimension. 10. An apparatus according to claim 8 wherein said implant is formed at least in part from nitinol. 11. An apparatus according to claim 8 wherein said implant includes a surface adapted for tissue in-growth.

					12. An apparatus according to claim 11 wherein at least an outer surface of said implant is a polyester. 13. An apparatus according to claim 8 wherein said implant includes a radiopaque marking. 14. An apparatus according to claim 8 wherein said implant is an injectable polymer injected into said soft palate. 15. An apparatus according to claim 8 wherein said implant is sized to be completely implanted into said soft palate.
1USC8	10/629,490	7/29/03	Pending		1. A method for treating an airway condition of a patient where said airway condition is characterized by a dynamic response of a tissue of said airway to airflow, said method comprising: selecting a solid implant of pre-formed dimensions and dimensioned so as to be implanted into a target tissue to be stiffened to resist deformation, said implant being formed of a material selected to induce a fibrotic response of material amount and having mechanical characteristics for said implant, at least in combination with a fibrotic tissue response induced by said implant, to passively, and without application of external energy, alter said dynamic response of said tissue without application of force external to said target tissue; implanting said implant into said target tissue to alter said dynamic response. 2. A method according to claim 1 comprising providing said implant to have a mass sufficient to alter said dynamic response following said implantation without substantially impairing a function of said tissue. 3. A method according to claim 1 comprising providing said implant to dampen said dynamic response following said implantation without substantially impairing a function of tissue.

					4. A method according to claim 1 comprising providing said implant to stiffen said tissue to alter said dynamic response following said implantation without substantially impairing a function of said tissue. 5. A method for treating an airway condition of a patient where said airway condition is characterized by a dynamic response of a tissue of said airway to airflow, said method comprising: selecting a solid implant of pre-formed dimensions and dimensioned so as to be implanted into a target tissue to be stiffened to resist deformation, said implant being formed of a material selected to induce a fibrotic response of material amount and having mechanical characteristics for said implant, at least in combination with a fibrotic tissue response induced by said implant, to passively, and without application of external energy, alter said dynamic response of said target tissue to air flow past said tissue without application of force external to said target tissue, and said implant having a longitudinal dimension and a narrower transverse dimension and said implant being flexible along said longitudinal dimension, said implant further dimensioned so as to not substantially increase a bulk of said target tissue following implantation of said implant into said target tissue; and implanting said implant within said target tissue to alter said dynamic response. 6. A method for treating an airway condition of a patient where said airway condition is characterized by a dynamic response of a tissue of said airway to airflow, said method comprising: selecting an implant dimensioned so as to be implanted into a target tissue to be stiffened to resist deformation, said implant being formed of a material selected to induce a fibrotic response of material amount and having mechanical characteristics for said implant, at least in combination with a fibrotic tissue response induced by said implant, to passively, and without application of external energy, alter said dynamic response of said target tissue to air flow past said tissue without application of force external to said target tissue, and said implant having a longitudinal

					dimension and a narrower transverse dimension and said implant being flexible along said longitudinal dimension, and said implant having a stiffness selected to stiffen said target tissue to alter said dynamic response following said implantation without substantially impairing a function of said tissue; implanting said implant within said target tissue to alter said dynamic response. 7. A method according to claim 1 wherein said airway condition is snoring. 8. A method according to claim 1 wherein said tissue is a soft palate. 9. A method according to claim 5 wherein said airway condition is snoring. 10. A method according to claim 5 wherein said tissue is a soft palate. 11. A method according to claim 6 wherein said airway condition is snoring. 12. A method for treating an airway condition of a patient where said airway condition is characterized by a dynamic response of a tissue of said airway to airflow, said method comprising: selecting an implant dimensioned so as to be implanted into said tissue, said implant having mechanical characteristics for said implant, at least in combination with a fibrotic tissue response induced by said implant, to alter said dynamic response of said tissue to air flow past said tissue without application of force external to said tissue, and said implant having a longitudinal dimension and a narrower transverse dimension and said implant being flexible along said longitudinal dimension, and said implant having a stiffness selected to stiffen said tissue to alter said dynamic response following said implantation without substantially impairing a function of said tissue; implanting said implant within said tissue to alter said dynamic response; and wherein said tissue is a soft palate.
1US11	10/938,255	9/9/04	Pending		1. A method of treating snoring, comprising treating a patient's snoring by the steps of:

					injecting a polymer into a soft palate of said patient in an area between a hard palate and a trailing edge of said soft palate; and adding a stiffening agent to said polymer to alter the flexibility of said polymer with an alteration of said flexibility of said polymer due to said addition occurring after the injection of said polymer into said soft palate. 2. The method of claim 1 wherein said polymer is a phase change polymer. 3. A method of treating snoring, comprising treating a patient's snoring by the steps of: injecting a polymer into a soft palate of said patient in an area between a hard palate and a trailing edge of said soft palate; and adding a stiffening agent to said polymer to alter the flexibility of said polymer with an alteration of said flexibility of said polymer due to said addition occurring after the injection of said polymer into said soft palate; and wherein said polymer and said stiffening agent are injected into a space defined by a bladder implanted within the patient's soft palate. 4. The method of claim 1, wherein said polymer is injected into said soft palate by a needle. 5. The method of claim 1, wherein said injecting of said polymer into said soft palate occurs before the addition of said stiffening agent to said polymer.
1US14	11/196,811	8/3/05	Pending		1-13. (Cancelled) 14. An apparatus to brace or fixate tissue in targeted pharyngeal structures and/or individual anatomic components within the pharyngeal conduit comprising a material including one or more liquid components that is injected into tissue as a liquid or slurry and that sets in situ to create a non-liquid mechanical implant structure. 15. A system comprising at least two apparatuses, at least one of the apparatuses

					comprising an apparatus as defined in claim 14. 15. A method for implanting an apparatus in targeted pharyngeal structures and/or individual anatomic components within the pharyngeal conduit comprising the steps of providing at least one apparatus as defined in claim 14, and injecting the apparatus in targeted pharyngeal structures and/or individual anatomic components within the pharyngeal conduit.

Patents And Applications With A Portion Of The Disclosure Claiming Priority To Ser. No. 09/398,991 Filed September 17, 1999 (Now U.S. Pat. No. 6,250,307)

Docket Suffix (Prefix 13033)	Serial No.	Filing Date	Patent No.	Issue Date	Claims
1USC4	10/036,915	1/3/02	6,634,362	10/21/03	1. A method for treating snoring of a patient, said method comprising: providing an implant for altering a dynamic response of a soft palate of the patient to air flow past said soft palate; implanting said implant into said soft palate to alter said dynamic response; said providing including selecting an implant formed of a braid of multiple fibers that provide stiffening to said palate resulting at least in part from a fibrotic response of a tissue of the soft palate to the material. 2. A method according to claim 1, wherein the multiple fibers include a bio-resorbable and non-resorbable fiber. 3. A method according to claim 1, wherein the multiple fibers are non-resorbable fibers. 4. A method according to claim 1, wherein said implant is formed of multiple fibers

					of different materials to provide different stiffening to said palate. 5. An apparatus for treating snoring of a patient suffering from snoring attributable, at in least in part, to a snoring sound generated by oscillation of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of bio-compatible material sized to be embedded within said soft palate; and said implant formed as a braid of multiple fibers that provide stiffening to said palate resulting at least in part from a fibrotic response of a tissue of the soft palate to the material. 6. An apparatus according to claim 5, wherein the multiple fibers include a bio-resorbable and non-resorbable fiber. 7. An apparatus according to claim 5, wherein the multiple fibers are non-resorbable fiber. 8. An apparatus according to claim 5, wherein the multiple fibers are twisted together along a length of the implant with the fibers having terminal ends at opposite ends of the implant. 9. An apparatus according to claim 8, wherein the multiple fibers are of different materials to provide different stiffening to said palate. 10. An apparatus method according to claim 5 wherein said multiple fibers are polyester fibers.
1USC5	10/121,166	4/11/02	6,578,580	6/17/03	1. A kit for use in treating snoring of a patient suffering from snoring attributable, at in least in part, to a snoring sound generated by oscillation of a soft palate of said patient in response to airflow past said soft palate, said kit comprising the following

					in combination: an implant of bio-compatible material sized to be embedded within said soft palate and induce a stiffening of the soft palate to resist said oscillation; a needle having a distal tip for penetrating into the soft palate, said needle having an axially extending bore; said implant pre-loaded within said bore at said distal tip; said bore sized to receive a rod from a proximal end of said needle with said rod opposing said implant to eject said implant from said distal tip upon relative sliding movement of said needle and said rod. 2. A kit according to claim 1 wherein said implant is provided with a stiffness to alter a dynamic response of said palate following placement of said implant in said soft palate. 3. A kit for use in treating snoring of a patient suffering from snoring attributable, at in least in part, to a snoring sound generated by oscillation of a soft palate of said patient in response to airflow past said soft palate, said kit comprising the following in combination: an implant of bio-compatible material sized to be embedded within said soft palate and induce a stiffening of the soft palate to resist said oscillation; a needle having a distal tip for penetrating into the soft palate, said needle having an axially extending bore; said implant disposed within said bore at said distal tip; said bore sized to receive a rod from a proximal end of said needle with said rod opposing said implant to eject said implant from said distal tip upon relative sliding movement of said needle and said rod; and wherein said implant includes a material for promoting tissue in-growth into said implant following placement of said implant into said soft palate. 4. A kit according to claim 1 wherein said implant is sized slightly greater than said bore for said implant to expand upon ejection from said bore.

					5. A kit for use in treating snoring of a patient suffering from snoring attributable, at in least in part, to a snoring sound generated by oscillation of a soft palate of said patient in response to airflow past said soft palate, said kit comprising the following in combination: an implant of bio-compatible material sized to be embedded within said soft palate and induce a stiffening of the soft palate to resist said oscillation; a needle having a distal tip for penetrating into the soft palate, said needle having an axially extending bore; said implant disposed within said bore at said distal tip; said bore sized to receive a rod from a proximal end of said needle with said rod opposing said implant to eject said implant from said distal tip upon relative sliding movement of said needle and said rod; wherein said implant is provided with a stiffness to alter a dynamic response of said palate following placement of said implant in said soft palate; and wherein said implant is formed of multiple fibers including fibers of a material for promoting tissue in-growth. 6. A kit for use in treating snoring of a patient suffering from snoring attributable, at in least in part, to a snoring sound generated by oscillation of a soft palate of said patient in response to airflow past said soft palate, said kit comprising the following in combination: an implant of bio-compatible material sized to be embedded within said soft palate and induce a stiffening of the soft palate to resist said oscillation; a needle having a distal tip for penetrating into the soft palate, said needle having an axially extending bore; said implant disposed within said bore at said distal tip; said bore sized to receive a rod from a proximal end of said needle with said rod opposing said implant to eject said implant from said distal tip upon relative sliding movement of said needle and said rod; wherein said implant is sized slightly greater than said bore for said implant to

					expand upon ejection from said bore; and wherein the implant is formed of multiple fibers that are twisted together along a length of the implant with the fibers having terminal ends at opposite ends of the implant. 7. A kit according to claim 5, wherein the multiple fibers are braided together.
1USC6	10/434,517	5/7/03	6,848,447	2/1/05	1. A method for treating snoring of a patient, said method comprising: providing an implant for altering a dynamic response of a soft palate of the patient to air flow past said soft palate; implanting said implant into said soft palate to alter said dynamic response; said implant formed at least in part from a solid bio-resorbable material; and wherein said bio-resorbable material is a braid of bio-resorbable fibers. 2. A method for treating snoring of a patient, said method comprising: providing an implant for altering a dynamic response of a soft palate of the patient to air flow past soft palate; implanting said implant into soft palate to alter said dynamic response; said implant formed at least in part from a solid bio-resorbable material; and wherein said implant further includes a fibrosis inducing material. 3. An apparatus for treating snoring of a patient suffering from snoring attributable, at least in part, to a snoring sound generated by oscillation of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of bio-compatible material sized to be embedded within said soft palate; said bio-compatible material is a solid bio-resorbable material; and wherein said bio-resorbable material is a braid of bio-resorbable fibers. 4. An apparatus for treating snoring of a patient suffering from snoring attributable,

					at least in part, to a snoring sound generated by oscillation of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of bio-compatible material sized to be embedded within said soft palate; said bio-compatible material is a solid bio-resorbable material; and said implant further includes a fibrosis inducing material. 5. A method for treating snoring of a patient, said method comprising: providing an implant for altering a dynamic response of a soft palate of the patient to air flow past said soft palate; implanting said implant into said soft palate to alter said dynamic response; said implant formed at least in part from a solid bio-resorbable material; wherein said bio-resorbable material includes a plurality of bio-resorbable fibers; and wherein said plurality of bio-resorbable fibers form a braided construction. 6. An apparatus for treating snoring of a patient suffering from snoring attributable, at in least in part, to a snoring sound generated by oscillation of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of bio-compatible material sized to be embedded within said soft palate; said bio-compatible material is a solid bio-resorbable material; wherein said bio-resorbable material includes a plurality of bio-resorbable fibers; and wherein said plurality of bio-resorbable fibers form a braided construction.
1USC7	10/449,186	5/30/03	Pending		1. (Cancelled)

					Claims 2-7 (Cancelled) 8. An apparatus for treating an upper airway condition of a patient attributable, at least in part, to a dynamic response of a soft palate of the patient in response to airflow past the soft palate, the apparatus comprising: a elongated flexible member of bio-compatible material sized to be placed within the soft palate, the elongated flexible member being sized so as to not substantially increase a bulk of the soft plate following placement of the member within the soft palate, while still altering a dynamic response of the soft palate to airflow past the soft plate. 9. The apparatus of claim 8, wherein the elongated flexible member is a flexible strip configured to alter the dynamic response of the soft palate. 10. The apparatus of claim 8, wherein the flexible strip has a longitudinal dimension and a transverse dimension, the transverse dimension being less than the longitudinal dimension. 11. The apparatus of claim 8, wherein the elongated flexible member is a first elongated flexible member, the apparatus further including at least a second elongated flexible member of bio-compatible material sized to be place within the soft palate along with the first elongated flexible member. 12. The apparatus of claim 8, wherein the elongated flexible member has a straight configuration. 13. The apparatus of claim 8, wherein the elongated flexible member has a curved configuration. 14. The apparatus of claim 8, wherein the elongated flexible member is pre-shaped

					to define a rest shape corresponding to a region the soft palate. 15. The apparatus of claim 8, wherein the elongated flexible member is a plastically deformable strip having a stiffness greater than the soft palate to assist the soft palate in resisting deflection due to the airflow past the soft palate. 16. The apparatus of claim 8, wherein the elongated flexible member is formed of a number of fibers, at least one of the fibers being made of a material different than other fibers. 17. The apparatus of claim 16, wherein at least one of the fibers is made of a bio-resorbable material. 18. The apparatus of claim 17, wherein the bio-resorbable material is collagen. 19. The apparatus of claim 18, wherein the collagen fiber is braided with the remaining number of fibers to form the elongated flexible member. 20. The apparatus of claim 17, wherein at least one of the fibers is made of a material for encouraging a fibrotic response. 21. The apparatus of claim 20, wherein the material for encouraging a fibrotic response includes a polyester material. 22. The apparatus of claim 16, wherein the number of fibers is formed into a braided construction. 23. The apparatus of claim 16, wherein the number of fibers is formed into a twisted construction. 24. The apparatus of claim 8, wherein the bio-compatible material at least includes a

					bio-resorbable material. 25. The apparatus of claim 24, wherein the bio-resorbable material is collagen. 26. The apparatus of claim 8, wherein the upper airway condition is snoring.
1USC9	10/824,673	4/15/04	Pending		1. A method for treating an airway condition of a patient, said method comprising: selecting an implant of solid material of a pre-formed dimension and dimensioned so as to be implanted into a tissue of an upper airway of said patient, said implant having mechanical characteristics for said implant to resist deflection of said tissue and urge a deflected tissue to return to a rest state; and implanting said implant into said tissue. 2. A method for treating an airway condition of a patient, said method comprising: selecting an implant dimensioned so as to be implanted into a tissue of an upper airway of said patient, said implant having mechanical characteristics for said implant to resist deflection of said tissue and urge a deflected tissue to return to a rest state; implanting said implant into said tissue; and wherein said implant is metal. 3. A method according to claim 2 wherein said metal is nitinol. 4. A method according to claim 1 wherein said implant has tissue in-growth areas. 5. A method according to claim 3 wherein said nitinol implant has an open cell structure. 6. A method according to claim 1 wherein said condition is snoring. 7. A method according to claim 1 wherein said tissue is a soft palate.

					8. A method according to claim 1 wherein said implant is not connected to a bony structure. 9. An apparatus for treating an airway condition of a patient, said apparatus comprising: an implant of solid material of a pre-formed dimension and dimensioned so as to be implanted into said tissue; said implant having a mechanical characteristic for said implant to resist deflection of said tissue and urge a deflected tissue to return to a rest state. 10. An apparatus for treating an airway condition of a patient, said apparatus comprising: an implant dimensioned so as to be implanted into said tissue; said implant having a mechanical characteristic for said implant to resist deflection of said tissue and urge a deflected tissue to return to a rest state; and wherein said implant is metal. 11. An apparatus according to claim 10 wherein said metal is nitinol. 12. An apparatus according to claim 9 wherein said implant has tissue in-growth areas. 13. An apparatus according to claim 11 wherein said nitinol implant has an open cell structure. 14. A method according to claim 2 wherein said implant has tissue in-growth areas. 15. A method according to claim 2 wherein said implant is not connected to a bony structure. 16. A method according to claim 2 wherein said tissue is a soft palate.

					17. A method according to claim 2 wherein said airway condition is snoring. 18. An apparatus according to claim 9 wherein said tissue is a soft palate and said implant is dimensioned so as to be implanted into said soft palate. 19. An apparatus according to claim 10 wherein said tissue is a soft palate and said implant is dimensioned so as to be implanted into said soft palate.
1US10	10/843,052	5/10/04	Pending		1. A method for treating an airway condition, said method comprising: providing an implant for altering a dynamic response of a soft palate of a patient to air flow past said soft palate, the implant including multiple fibers connected to form a solid material of pre-formed dimension to provide stiffening to said palate; and implanting said implant into said soft palate to alter said dynamic response. 2. A method for treating an airway condition, said method comprising: providing an implant for altering a dynamic response of a soft palate of a patient to air flow past said soft palate, the implant including multiple fibers to provide stiffening to said palate; implanting said implant into said soft palate to alter said dynamic response; and wherein the multiple fibers include a bio-resorbable fiber and a non-resorbable fiber. 3. A method for treating an airway condition, said method comprising: providing an implant for altering a dynamic response of a soft palate of a patient to air flow past said soft palate, the implant including multiple fibers to provide stiffening to said palate; implanting said implant into said soft palate to alter said dynamic response; and wherein the multiple fibers are non-resorbable fibers. 4. A method for treating an airway condition, said method comprising:

providing an implant for altering a dynamic response of a soft palate of a patient to air flow past said soft palate, the implant including multiple fibers to provide stiffening to said palate;

implanting said implant into said soft palate to alter said dynamic response; and

wherein the multiple fibers are twisted together along a length of the implant with the fibers having terminal ends at opposite ends of the implant.

5. A method for treating an airway condition, said method comprising:

providing an implant for altering a dynamic response of a soft palate of a patient to air flow past said soft palate, the implant including multiple fibers to provide stiffening to said palate;

implanting said implant into said soft palate to alter said dynamic response; and

wherein the multiple fibers form a braided construction.

6. An apparatus for treating an airway condition generated at least in part by oscillation of a soft palate of a patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising:

an implant of bio-compatible material sized to be embedded within said soft palate;

said implant having multiple fibers connected to form a solid material of pre-formed dimension to provide stiffening to said palate;

a hollow needle having a distal tip for piercing tissue; and

said implant disposed within said needle near said distal tip and wherein said pre-formed dimension is selected for said implant to be received within said needle in sliding close tolerance.

7. An apparatus for treating an airway condition generated at least in part by oscillation of a soft palate of a patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising:

					an implant of bio-compatible material sized to be embedded within said soft palate; said implant having multiple fibers to provide stiffening to said palate; wherein the multiple fibers include a bio-resorbable fiber and a non-resorbable fiber; a hollow needle having a distal tip for piercing tissue; said implant disposed within said needle near said distal tip and wherein said pre-formed dimension is selected for said implant to be received within said needle in sliding close tolerance. 8. An apparatus for treating an airway condition generated at least in part by oscillation of a soft palate of a patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of bio-compatible material sized to be embedded within said soft palate; said implant having multiple fibers to provide stiffening to said palate; wherein the multiple fibers are non-resorbable fibers; a hollow needle having a distal tip for piercing tissue; said implant disposed within said needle near said distal tip and wherein said pre-formed dimension is selected for said implant to be received within said needle in sliding close tolerance. 9. An apparatus for treating an airway condition generated at least in part by oscillation of a soft palate of a patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of bio-compatible material sized to be embedded within said soft palate; said implant having multiple fibers to provide stiffening to said palate; and wherein the multiple fibers are twisted together along a length of the implant with

					the fibers having terminal ends at opposite ends of the implant. 10. An apparatus for treating an airway condition generated at least in part by oscillation of a soft palate of a patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of bio-compatible material sized to be embedded within said soft palate; said implant having multiple fibers to provide stiffening to said palate; wherein the multiple fibers are braided together; a hollow needle having a distal tip for piercing tissue; said implant disposed within said needle near said distal tip and wherein said pre-formed dimension is selected for said implant to be received within said needle in sliding close tolerance. 11. A method according to claim 1 wherein said airway condition is snoring.
1US12	10/948,352	9/23/04	Pending		1-10. (Cancelled) 11. A method for treating snoring of a patient, said method comprising: providing an implant for altering a dynamic response of a soft palate of the patient to air flow past said soft palate; implanting said implant into said soft palate to alter said dynamic response; said implant formed at least in part from a solid bio-resorbable material having pre-formed dimensions prior to said implanting. 12. An apparatus for treating snoring of a patient suffering from snoring attributable, at least in part, to a snoring sound generated by oscillation of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of bio-compatible material sized to be embedded within said soft

					palate; said biocompatible material is a solid bio-resorbable material having pre-formed dimensions a hollow needle having a distal tip for piercing tissue; said implant disposed within said needle near said distal tip and wherein said pre-formed dimension is selected for said implant to be received within said needle in sliding close tolerance. 13. A method according to claim 11 wherein said bio-resorbable material includes a plurality of bio-resorbable fibers. 14. An apparatus according to claim 12 wherein said bio-resorbable material includes a plurality of bio-resorbable fibers. 15. An apparatus according to claim 15 wherein said needle contains a rod for ejecting said implant from said distal tip upon relative movement between said rod and needle.
1US13	11/011,741	12/14/04	Pending		1-10 (Cancelled) 11. A method for treating an upper airway condition of a patient, said method comprising: providing an implant for altering a dynamic response of a soft palate of the patient to air flow past said soft palate, said implant formed at least in part from a solid bio-resorbable material of pre-formed dimension sized to be placed within said soft palate; and implanting said implant into said soft palate to alter said dynamic response. 12. A method according to claim 11 wherein said bio-resorbable material is a braid of bio-resorbable fibers. 13. A method according to claim 11 wherein said implant further includes a fibrosis

					inducing material. 14. A method according to claim 11 wherein said upper airway condition is snoring. 15. An apparatus for treating an upper airway condition of a patient suffering from snoring attributable, at least in part, to a snoring sound generated by oscillation of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of bio-compatible material sized to be embedded within said soft palate; said bio-compatible material is a solid bio-resorbable material of pre-formed dimension; a hollow needle having a distal tip for piercing tissue; said implant disposed within said needle near said distal tip and wherein said pre-formed dimension is selected for said implant to be received within said needle in sliding close tolerance. 16. An apparatus according to claim 15 wherein said bio-resorbable material is a braid of bio-resorbable fibers. 17. An apparatus according to claim 15 wherein said implant further includes a fibrosis inducing material. 18. An apparatus according to claim 15 wherein said bio-resorbable material includes a plurality of bio-resorbable fibers. 19. An apparatus according to claim 18 wherein said plurality of bio-resorbable fibers form a braided construction.

					20. An apparatus according to claim 18 wherein said implant includes a radiopaque marker. 21. An apparatus according to claim 15 wherein said needle contains a rod for ejecting said implant from said distal tip upon relative movement between said rod and needle.
1USI1	09/434,653	11/5/99	6,401,717	6/11/02	1. A method for treating a soft palate of a patient, said method comprising: placing an implant in the soft palate; said implant formed, at least in part, from a fibrosis-inducing material to induce a fibrotic response of the soft palate following placement of said implant in said soft palate; said material sized for said fibrotic response to alter a dynamic response of the soft palate to air flow past the soft palate. 2. A method according to claim 1 wherein said implant is selected to have a longitudinal dimension and a narrower transverse dimension with said implant sized to be imbedded within said soft palate, and implanting said implant within said soft palate with said longitudinal dimension extending in a path generally from a front of said patient toward a back of said patient. 3. A method according to claim 1 wherein said implant has a stiffness selected to stiffen said soft palate to alter said dynamic response following said implantation without substantially impairing a function of said soft palate to close a nasal passage of said patient from a pharynx of said patient during swallowing. 4. A method according to claim 1 wherein said material is polyester. 5. A method according to claim 1 wherein said implant is adapted to be collapsed in size for implantation and enlarged in size within the soft palate following implantation. 6. A method according to claim 5 wherein said implant includes a resilient member

					for urging said implant to said enlarged size. 7. A method according to claim 6 wherein said resilient member is a frame contained within said material. 8. A method according to claim 7 wherein said frame extends substantially around a perimeter of said material. 9. An apparatus for treating a soft palate of a patient, said apparatus comprising: an implant of bio-compatible material sized to be inserted into the soft palate; said implant formed, at least in part, from a fibrosis-inducing material to induce a fibrotic stiffening of the soft palate following placement of said implant in said soft palate; said implant adapted to be collapsed in size to a collapsed state for implantation through a wound into said soft palate and enlarged in size within the soft palate following implantation. 10. An apparatus according to claim 9 wherein said implant includes a resilient member for urging said implant to said enlarged size. 11. An apparatus according to claim 10 wherein said resilient member is a frame contained within said material. 12. An apparatus according to claim 11 wherein said frame extends substantially around a perimeter of said material. 13. An apparatus according to claim 12 wherein said material is polyester.
1USI2	09/513,042	2/25/00	6,453,905	9/24/02	1. A method for treating snoring of a patient, said method comprising: providing an implant for altering a dynamic response of a soft palate of the patient to air flow past said soft palate, the implant including first and second components where said second component includes a material susceptible to a stiffening fibrotic

					response which increases for at least a period of time following implantation of said second component in contact with tissue; implanting said implant into said soft palate to alter said dynamic response; initially stiffening the soft palate with the first component; and later stiffening the soft palate with a fibrotic response of tissue of said soft palate to said second component the second component. 2. A method according to claim 1, wherein the second component provides a stiffening which increases with time following implantation. 3. A method for treating snoring of a patient, said method comprising: providing an implant for altering a dynamic response of a soft palate of the patient to air flow past said soft palate, the implant including first and second components; implanting said implant into said soft palate to alter said dynamic response; initially stiffening the soft palate with the first component; later stiffening the soft palate with the second component; wherein the second component provides a stiffening which increases with time following implantation; and wherein the second component provides a stiffening by inducing a fibrotic response which increases at least immediately post-operatively. 4. A method according to claim 3, wherein the second component is a non-degradable fiber. 5. A method according to claim 1, wherein the first component provides a stiffening which decreases with time following implantation. 6. A method according to claim 5, wherein the first component includes a bio-resorbable member having a stiffness sufficient to alter said dynamic response. 7. A method according to claim 6, wherein the first component is a mesh of bio-

					resorbable fibers. 8. A method according to claim 5, wherein the second component provides a stiffening which increases with time following implantation. 9. A method for treating snoring of a patient, said method comprising: providing an implant for altering a dynamic response of a soft palate of the patient to air flow past said soft palate, the implant including first and second components; implanting said implant into said soft palate to alter said dynamic response; initially stiffening the soft palate with the first component; later stiffening the soft palate with the second component; wherein the first component provides a stiffening which decreases with time following implantation; and wherein the second component provides a stiffening which increases as a stiffening of said first component decreases. 10. A method for treating snoring attributable to motion of a soft palate of a patient, said method comprising: providing a first stiffener to the soft palate to immediately alter a dynamic response of the soft palate to air flow past the soft palate; and providing a fibrosis-inducing agent to the soft palate in an area and amount sufficient to induce a fibrotic stiffening of the soft palate to later alter a dynamic response of the soft palate to air flow past the soft palate. 11. A method according to claim 10, wherein said material is expandable with said soft palate. 12. A method according to claim 10, wherein said material is polyester. 13. A method according to claim 10, wherein said agent is a fibrosis-inducing chemical.

					14. An apparatus for treating snoring of a patient suffering from snoring attributable, at in least in part, to a snoring sound generated by oscillation of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of bio-compatible material sized to be embedded within said soft palate; and said implant having a first component for immediately altering said dynamic response following implanting of said implant into said soft palate, and a second component for later altering said dynamic response where said second component includes a material susceptible to a stiffening fibrotic response which increases for at least a period of time following implantation of said second component in contact with tissue. 15. An apparatus according to claim 14, wherein the second component provides a stiffening which increases with time following implantation. 16. An apparatus for treating snoring of a patient suffering from snoring attributable, at in least in part, to a snoring sound generated by oscillation of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of bio-compatible material sized to be embedded within said soft palate; said implant having a first component for immediately altering said dynamic response following implanting of said implant into said soft palate, and a second component for later altering said dynamic response; wherein the second component provides a stiffening which increases with time following implantation; and wherein the second component provides a stiffening by inducing a fibrotic

					response which increases at least immediately post-operatively. 17. An apparatus according to claim 16, wherein the second component is a non-degradable fiber. 18. An apparatus according to claim 14, wherein the first component provides a stiffening which decreases with time following implantation. 19. An apparatus according to claim 18, wherein the first component includes a bio-resorbable member having a stiffness sufficient to alter said dynamic response. 20. An apparatus according to claim 19, wherein the first component is a mesh of bio-resorbable fibers. 21. An apparatus according to claim 14, wherein the second component provides a stiffening which increases with time following implantation. 22. An apparatus for treating snoring of a patient suffering from snoring attributable, at in least in part, to a snoring sound generated by oscillation of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of bio-compatible material sized to be embedded within said soft palate; said implant having a first component for immediately altering said dynamic response following implanting of said implant into said soft palate, and a second component for later altering said dynamic response; and wherein the second component provides a stiffening which increases as a stiffening of said first component decreases.
1USI3	09/513,039	2/25/00	6,415,796	7/9/02	1. Method for treating snoring of a patient, said method comprising: providing an implant for altering a dynamic response of a soft palate of the patient

					to air flow past said soft palate; and implanting said implant into said soft palate by placing said implant in an axially extending bore of a needle having a proximal end and a distal tip for penetrating into the soft palate and said needle slidable proximally, and said bore containing a rod with said rod opposing said implant and with said needle slidable proximally relative to said rod; and advancing the needle through the soft palate to a desired deployment site and ejecting said implant from said distal tip upon sliding movement of said needle proximally relative to surrounding tissue of said soft palate and said needle sliding proximally relative to said rod. 2. A method according to claim 1, wherein the needle includes a member at a distal tip to block admission of tissue into the needle as the needle is advanced and said method includes discharging said member from said needle. 3. A method according to claim 2, wherein the member is a plug of a bio-resorbable material and said method includes discharging said member from said needle as said needle is retracted over said implant. 4. A kit for treating snoring of a patient suffering from snoring attributable, at in least in part, to a snoring sound generated by movement of a soft palate of said patient in response to airflow past said soft palate, said apparatus comprising: an implant of bio-compatible material adapted to be embedded within said soft palate; a needle having a proximal end and a distal tip adopted to penetrate into the soft palate, said needle having an axially extending bore; said needle slidable proximally relative to said handle; said implant disposed within said bore at said distal tip; said bore sized to receive a rod from a proximal end of said needle with said rod opposing said implant and with said needle slidable proximally relative to said rod to eject said implant from said distal tip upon sliding movement of said needle

					proximally relative to said rod with said rod stationary relative to surrounding tissue of said soft palate. 5. A kit according to claim 4, wherein the blocking member is a plug that is discharged from the needle when the implant is implanted in the soft palate. 6. A kit according to claim 5, wherein the plug is a bio-resorbable material. 7. A kit according to claim 4 further comprising a blocking member positioned at a distal tip of the needle to block admission of tissue into the needle as the needle is advanced into the soft palate.
1USI4	09/513,432	2/25/00	6,450,169	9/17/02	1. A method for treating snoring of a patient, said method comprising: providing an implant for altering a dynamic response of a soft palate of the patient to air flow past said soft palate, the implant including first and second components; implanting said implant into said soft palate to alter said dynamic response; said providing including selecting an implant of multiple fibers of different materials to provide different stiffening to said palate. 2. A method according to claim 1, wherein the multiple fibers include a bio-resorbable and non-resorbable fiber. 3. A method according to claim 1, wherein the multiple fibers are non-resorbable fiber. 4. A method according to claim 1, wherein the multiple fibers are twisted together along a length of the implant with the fibers having terminal ends at opposite ends of the implant. 5. An apparatus for treating snoring of a patient suffering from snoring attributable, at in least in part, to a snoring sound generated by oscillation of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a

					characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of bio-compatible material sized to be embedded within said soft palate; and said implant having multiple fibers of different materials to provide different stiffening to said palate. 6. An apparatus according to claim 5, wherein the multiple fibers include a bio-resorbable and non-resorbable fiber. 7. An apparatus according to claim 5, wherein the multiple fibers are non-resorbable fiber. 8. An apparatus according to claim 5, wherein the multiple fibers are twisted together along a length of the implant with the fibers having terminal ends at opposite ends of the implant. 9. An apparatus according to claim 8, wherein the multiple fibers are braided together.
1USI5	09/602,141	6/23/00	6,390,096	5/21/02	1. A kit for use in treating snoring of a patient suffering from snoring attributable, at in least in part, to a snoring sound generated by oscillation of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said kit comprising the following in combination: an implant of bio-compatible material sized to be embedded within said soft palate; a needle having a distal tip for penetrating into the soft palate, said needle having an axially extending bore; said implant disposed within said bore at said distal tip; said bore sized to receive a rod from a proximal end of said needle with said rod opposing said implant to eject said implant from said distal tip upon relative sliding

					movement of said needle and said rod; and said needle at said distal tip being perforated through a wall thickness of said needle in a region of said needle in fluid flow communication with said implant for fluid to flow through a wall of said needle into engagement with said implant. 2. A kit according to claim 1 wherein said implant is provided with a stiffness to alter a dynamic response of said palate following placement of said implant in said soft palate. 3. A kit for use in treating snoring of a patient suffering from snoring attributable, at in least in part, to a snoring sound generated by oscillation of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said kit comprising the following in combination: an implant of bio-compatible material sized to be embedded within said soft palate; a needle having a distal tip for penetrating into the soft palate, said needle having an axially extending bore; said implant disposed within said bore at said distal tip; said bore sized to receive a rod from a proximal end of said needle with said rod opposing said implant to eject said implant from said distal tip upon relative sliding movement of said needle and said rod; said needle at said distal tip being perforated for fluid to flow through a wall of said needle into engagement with said implant; and wherein said implant includes a material for promoting tissue in-growth into said implant following placement of said implant into said soft palate. 4. A kit according to claim 1 wherein said implant is sized slightly greater than said bore for said implant to expand upon ejection from said bore. 5. A kit for use in treating snoring of a patient suffering from snoring attributable, at

					in least in part, to a snoring sound generated by oscillation of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said kit comprising the following in combination: an implant of bio-compatible material sized to be embedded within said soft palate; a needle having a distal tip for penetrating into the soft palate, said needle having an axially extending bore; said implant disposed within said bore at said distal tip; said bore sized to receive a rod from a proximal end of said needle with said rod opposing said implant to eject said implant from said distal tip upon relative sliding movement of said needle and said rod; said needle at said distal tip being perforated for fluid to flow through a wall of said needle into engagement with said implant; wherein said implant is provided with a stiffness to alter a dynamic response of said palate following placement of said implant in said soft palate; and wherein said implant is formed of multiple fibers including fibers of said material for promoting tissue in-growth. 6. A kit for use in treating snoring of a patient suffering from snoring attributable, at in least in part, to a snoring sound generated by oscillation of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said kit comprising the following in combination: an implant of bio-compatible material sized to be embedded within said soft palate; a needle having a distal tip for penetrating into the soft palate, said needle having an axially extending bore; said implant disposed within said bore at said distal tip; said bore sized to receive a rod from a proximal end of said needle with said rod opposing said implant to eject said implant from said distal tip upon relative sliding

					movement of said needle and said rod; said needle at said distal tip being perforated for fluid to flow through a wall of said needle into engagement with said implant; wherein said implant is sized slightly greater than said bore for said implant to expand upon ejection from said bore; and wherein the multiple fibers are twisted together along a length of the implant with the fibers having terminal ends at opposite ends of the implant. 7. A kit according to claim 5, wherein the multiple fibers are braided together.
1USI6	09/814,471	3/21/01	6,513,530	2/4/03	1. A method for treating snoring of a patient, said method comprising: providing an implant for altering a dynamic response of a soft palate of the patient to air flow past said soft palate; implanting said implant into said soft palate to alter said dynamic response; said providing including selecting an implant formed as a braid of multiple fibers braided together with fibers at ends of said braid being unbonded. 2. A method according to claim 1 wherein said multiple fibers are of different materials to provide different stiffening to said palate. 3. A method according to claim 1 wherein said multiple fibers are of similar materials. 4. A method according to claim 1 wherein said multiple fibers are bonded together at at least one location intermediate of said ends to prevent separation of said fibers at said location. 5. A method according to claim 1 wherein said multiple fibers are bonded together at locations spaced from said ends to prevent separation of said fibers at said locations while permitting fraying of said ends. 6. A method according to claim 3 wherein said multiple fibers are polyester fibers.

					7. A method according to claim 1 wherein at least a portion of said fibers are air-textured. 8. An apparatus for treating snoring of a patient suffering from snoring attributable, at in least in part, to a snoring sound generated by movement of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of bio-compatible material sized to be embedded within said soft palate; and said implant formed as a braid having multiple fibers braided together with fibers at ends of said braid being unbonded. 9. An apparatus according to claim 8 wherein said multiple fibers are of different materials to provide different stiffening to said palate. 10. An apparatus according to claim 8 wherein said multiple fibers are of similar materials. 11. An apparatus according to claim 10 wherein said multiple fibers are polyester fibers. 12. An apparatus according to claim 8 wherein said multiple fibers are bonded together at at least one location intermediate of said ends to prevent separation of said fibers at said location. 13. An apparatus according to claim 8 wherein said multiple fibers are bonded together at locations spaced from said ends to prevent separation of said fibers at said locations while permitting fraying of said ends.

					14. An apparatus according to claim 8 wherein at least a portion of said fibers are air-textured. 15. An apparatus for treating snoring of a patient suffering from snoring attributable, at in least in part, to a snoring sound generated by movement of a soft palate of said patient in response to airflow past said soft palate and where said soft palate has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of bio-compatible material sized to be embedded within said soft palate; and said implant formed as a braid having multiple fibers braided together with at least a portion of said fibers are air-textured. 16. An apparatus according to claim 15 wherein ends of said braid are frayed. 17. An apparatus according to claim 15 wherein said multiple fibers are of different materials to provide different stiffening to said palate. 18. An apparatus method according to claim 15 wherein said multiple fibers are of similar materials. 19. An apparatus method according to claim 18 wherein said multiple fibers are polyester fibers. 20. An apparatus according to claim 16 wherein said multiple fibers are bonded together at at least one location intermediate of said ends to prevent separation of said fibers at said location. 21. An apparatus according to claim 16 wherein said multiple fibers are bonded together at locations spaced from said ends to prevent separation of said fibers at said locations while permitting fraying of said ends.

1USI7	09/814,460	3/21/01	6,513,531	2/4/03	1. A method for treating snoring of a patient attributable at least in part to motion of a soft palate of the patient, the method comprising: forming a scar in the interior of the soft palate beneath a mucosa and clear of an external surface of said mucosa and extending in a direction toward the distal end of the soft palate with the scar limited to a proximal two-thirds of the soft palate. 2. A method for treating snoring of a patient attributable at least in part to motion of a soft palate of the patient, the method comprising: forming a scar in the interior of the soft palate and extending in a direction toward the distal end of the soft palate with the scar limited to a proximal two-thirds of the soft palate; wherein said scarring includes a fibrotic response resulting from the steps of: selecting an implant formed form a flexible, bio-compatible material having a longitudinal length between a proximal end and a distal end, a transverse width and a thickness between upper and lower surfaces, said material sized to be inserted into a proximal two-thirds of said soft palate with said longitudinal length extending aligned with an anterior-posterior axis of said soft palate and with said thickness contained within a thickness of said soft palate, said material having a plurality of spaces for accepting tissue growth from said soft palate into said spaces; inserting said implant into said soft palate with said longitudinal length extending aligned with an anterior-posterior axis of said soft palate and with said thickness contained within said thickness of said soft palate.
1USI8	09/815,154	3/21/01	6,523,541	2/25/03	1. A delivery system for delivering an implant into a soft palate of a patient for treatment of snoring, said system comprising: (A) an implant having: (a) a sheet of flexible, bio-compatible material having a longitudinal length between a proximal edge and a distal edge, a transverse width and a thickness between upper and lower surfaces; (b) said material sized to be inserted into said soft palate with said longitudinal length extending aligned with an anterior-posterior axis of said palate and with said thickness contained within a thickness of said soft palate

					(B) a delivery tool having: (a) a penetrating member with a distal end for penetration into said soft palate through a small penetration wound, said implant carried in said distal end of said penetrating member with said longitudinal dimension of said implant aligned with an axis of said penetration member; (b) a flattening tool contained within said distal end of said penetration member and constrained by said penetration member against a bias for a distal tip of said tool to expand beyond a size of said penetration wound to approximately a width of said implant; (c) said flattening tool retractable approximate to said implant length between an extended position and a retracted position with said distal tip of said tool in said retracted position smaller than said penetration wound; (d) said penetrating member retractable relative to said flattening tool when said flattening tool is in said extended position. 2. A delivery system according to claim 1 wherein said flattening tool includes spaced apart spring members having distal tips biased to be spread apart a distance greater than an outer dimension of said penetrating member and retractable to a reduced dimension.
1USI9	09/815,166	3/21/01	6,523,542	2/25/03	1. A method for treating snoring of a patient attributable at least in part to motion of a soft palate of the patient, the method comprising: selecting an implant formed form a sheet of flexible, bio-compatible material having a longitudinal length between a proximal edge and a distal edge, a transverse width and a thickness between upper and lower surfaces, said material sized to be inserted into said soft palate with said longitudinal length extending aligned with an anterior-posterior axis of said soft palate and with said thickness contained within a thickness of said soft palate, said material having a plurality of spaces for accepting tissue growth from said soft palate into said spaces; inserting said implant into said soft palate with said longitudinal length extending aligned with an anterior-posterior axis of said soft palate and with said thickness contained within said thickness of said soft palate.

					2. A method according to claim 1 wherein said material is expanded polytetraflouroethylene. 3. A method according to claim 1 wherein said material is polyester. 4. A method according to claim 1 wherein said material is woven. 5. A method according to claim 1 wherein said implant is inserted into said soft palate with said implant rolled-up about said longitudinal dimension. 6. A method according to claim 1 wherein said implant is inserted into said soft palate with said implant flattened for a lower surface of said sheet to be substantially parallel to a lower surface of said soft palate. 7. An implant for treating snoring of a patient attributable at least in part to motion of a soft palate of the patient, the implant comprising: a sheet of flexible, bio-compatible material having a longitudinal length between a proximal edge and a distal edge, a transverse width and a thickness between upper and lower surfaces; said material sized to be inserted into said soft palate with said longitudinal length extending aligned with an anterior-posterior axis of said palate and with said thickness contained within a thickness of said soft palate; and said material having a plurality of spaces for accepting tissue growth from said soft palate into said spaces. 8. An implant according to claim 7 wherein said material is expanded polytetraflouroethylene. 9. An implant according to claim 7 wherein said material is polyester.

					10. An implant according to claim 7 wherein said material is woven.
1USIA	09/814,456	3/21/01	6,516,806	2/11/03	1. A method for treating snoring of a patient attributable at least in part to motion of a soft palate of the patient, the method comprising: selecting an implant formed form material having a longitudinal length and with said material being compliant in response to tensile forces along said length, said material sized to be inserted into said soft palate with said longitudinal length extending aligned with an anterior-posterior axis of said soft palate and with a thickness of said implant contained within a thickness of said soft palate; inserting said implant into said soft palate with said longitudinal length extending aligned with an anterior-posterior axis of said soft palate and with said thickness contained within said thickness of said soft palate. 2. A method according to claim 1 wherein said implant includes a portion formed of tissue growth-inducing material selected to induce tissue growth. 3. A method according to claim 2 wherein said tissue growth-inducing material is expanded polytetraflouroethylene. 4. A method according to claim 2 wherein said tissue growth-inducing material is polyester. 5. A method according to claim 2 wherein said tissue growth-inducing material is woven. 6. An implant for treating snoring of a patient attributable at least in part to motion of a soft palate of the patient, the implant comprising: a bio-compatible material having a longitudinal length between a proximal end and a distal end and having a thickness, said material being compliant in response to tensile forces along said length; said material sized to be inserted into said soft palate with said longitudinal length extending aligned with an anterior-posterior axis of said palate and with said

					thickness contained within a thickness of said soft palate. 7. An implant according to claim 6 including a tissue growth-inducing material having a plurality of spaces for accepting tissue growth from said soft palate into said spaces. 8. An implant according to claim 7 wherein said tissue growth-inducing material is expanded polytetraflouroethylene. 9. An implant according to claim 7 wherein said tissue growth-inducing material is polyester. 10. An implant according to claim 7 wherein said tissue growth-inducing material is woven. 11. An implant according to claim 6 wherein said tissue growth-inducing material is a coil.
1USIB	09/814,459	3/21/01	6,601,584	8/5/03	1. A method for treating snoring of a patient attributable at least in part to motion of a soft palate of the patient, the method comprising: selecting an implant having dimensions including a longitudinal length, a width and a thickness, said material sized to be inserted into said soft palate with said longitudinal length extending aligned with an anterior-posterior axis of said soft palate and with a thickness of said implant contained within a thickness of said soft palate, a tissue growth-inducing material having a plurality of spaces for accepting tissue growth from said soft palate into said spaces, said material selected to contract in at least one of said dimensions in response to implantation; inserting said implant into said soft palate with said longitudinal length extending aligned with an anterior-posterior axis of said soft palate and with said thickness contained within said thickness of said soft palate; permitting tissue in-growth into said material followed by contraction of said material to contract said palate in at least one dimension.

					2. A method according to claim 1 wherein said implant is contractible in multiple ones of said dimensions. 3. An implant for treating snoring of a patient attributable at least in part to motion of a soft palate of the patient, the implant comprising: a bio-compatible material having dimensions including a longitudinal length, a thickness and a width; said material sized to be inserted into said soft palate with said longitudinal length extending aligned with an anterior-posterior axis of said palate and with said thickness contained within a thickness of said soft palate; a tissue growth-inducing material having a plurality of spaces for accepting tissue growth from said soft palate into said spaces, said material contractible in at least one of said dimensions in response to implantation of said implant in a body tissue. 4. An implant according to claim 3 wherein said implant includes: first and second ends having said tissue growth-inducing material; a resilient connecting member connecting said first and second ends; an extending member for stretching said connecting member with said extending member selected to relax following implantation in a body tissue. 5. An implant according to claim 4 wherein said extending member is resorbable in body tissue. 6. An implant according to claim 3 wherein said tissue growth-inducing material is stretchable in said dimensions and restrained against a collapsing bias in a stretched dimension; said implant further including a restraining material connected to said stretched tissue growth-inducing material for restraining said tissue growth-inducing material in a stretched state following implantation and tissue in-growth. 7. An implant according to claim 6 wherein said tissue growth-inducing material

					includes a plurality of interstitial spaces, said restraining material disposed within said spaces urging fibers of said tissue growth-inducing material apart, said restraining material selected to dissolve in response to prolonged contact with body fluids.
1USIC	09/992,277	11/14/01	6,502,574	1/7/03	1. A method of treating snoring attributed at least in part to movement of a soft palate of a patient in response to air flow, the method comprising: identifying first and second locations disposed on right and left sides, respectively of the soft palate and separated by an anterior-posterior midline extending centrally positioned on said palate; linking said first and second locations across said midline; said linking including creating a linkage between said first and second locations and through said midline with said linkage having a stiffness greater than a stiffness of untreated tissue naturally residing between said locations. 2. A method according to claim 1 wherein said linkage is submucosal. 3. A method according to claim 2 wherein said linkage is created at least in part by forming a scar tissue in said soft palate between said first and second locations. 4. A method according to claim 3 wherein said scar tissue is formed by radio-frequency ablation. 5. A method according to claim 2 wherein said linkage is created at least in part by placing an implant in said soft palate with said implant having a longitudinal dimension extending between said first and second locations with any natural stiffness of said implant and any fibrotic response to said implant creating said stiffness of said linkage. 6. A method according to claim 5 wherein said implant is a non-dissolving, biocompatible material.

					7. A method according to claim 2 wherein said locations are spaced-apart for said linkage to have a length equal to greater than one-third of a width of the soft palate at the position of said implant. 8. A method according to claim 2 wherein said locations are positioned near a trailing edge of said soft palate. 9. A method according to claim 8 wherein said locations are positioned in a distal one-third of the soft palate. 10. A method according to claim 2 wherein said linkage is created for said locations to be positioned for a straight line extending between said locations to be generally orthogonal to said midline. 11. A method according to claim 3 wherein said scar tissue is formed by injecting a sclerosing agent into said soft palate between said locations. 12. A method according to claim 3 wherein said scar tissue is formed by injecting microbeads into said soft palate between said locations. 13. A method according to claim 3 wherein said scar tissue is formed by injecting a stiffening polymer into said soft palate between said locations. 14. A method according to claim 13 wherein said polymer is silicone. 15. A method according to claim 1 wherein the linkage has a length between the first and second locations greater than a dimension transverse to the length. 16. A method according to claim 1 further including creating a longitudinal linkage in said soft palate and extending parallel to said midline.

					17. A method according to claim 1 wherein said linkage has a length sufficient for said linkage to extend at least 25% of a width of said soft palate. 18. A method according to claim 17 wherein said linkage has a length sufficient for said linkage to extend at least 50% of a width of said soft palate. 19. A method according to claim 1 wherein the linkage is placed in the distal 75% of the soft palate. 20. A method according to claim 19 wherein the linkage is placed in the distal 50% of the soft palate.

Patents And Applications With Entire Disclosure Claiming Priority To The Earliest Claimed Priority Date Of The Present Application (i.e., priority claimed to Ser. No. 09/636,803 Filed August 10, 2000 (Now U.S. Pat. No. 6,431,174))

Docket Suffix (Prefix 13033)	Serial No.	Filing Date	Patent No.	Issue Date	Claims
4US01	09/636,803	8/10/00	6,431,174	8/13/02	1. A method for treating an upper airway condition of a patient, said method comprising: selecting a particulate material selected for limited migration within tissue and for encouraging a fibrotic response of tissue to said material; injecting a bolus of said particulate material into said tissue area to stiffen said tissue. 2. A method according to claim 1 wherein said particulate material is carried in a fluid carrier. 3. A method according to claim 1 wherein said particulate material has a multi-modal particle size distribution.

					4. A method according to claim 1 wherein said tissue area is a soft palate of said patient. 5. A method according to claim 1 wherein said tissue area is a nasal mucosal surface of said patient. 6. A method according to claim 5 wherein said nasal mucosal surface is a nasal concha of said patient. 7. A method according to claim 1 wherein said tissue area is a pharyngeal wall of said patient. 8. A method according to claim 1 wherein said tissue area is an epiglottis of said patient. 9. A method according to claim 1 wherein said upper airway condition is snoring. 10. A method according to claim 1 wherein said upper airway condition is sleep apnea. 11. An apparatus for treating snoring of a patient suffering from snoring attributable, at least in part, to a snoring sound generating oscillation of a soft tissue area of said patient in response to airflow past said soft tissue area and where said soft tissue area has a characteristic dynamic response to said airflow prior to treatment, said apparatus comprising: an implant of biocompatible material sized to be embedded within said soft tissue area; said implant selected to have a stiffness to stiffen said soft tissue area after implantation to alter said dynamic response without substantially impairing a function of said soft tissue area;

					said implant including a bolus of particulate matter adapted to be deposited into said soft tissue area with said particulate matter selected to induce a fibrotic response to stiffen said soft tissue area.
4USC1	10/190,183	7/3/02	6,546,936	4/15/03	1. A method for treating an upper airway condition of a patient characterized at least in part by a reduced stiffness of tissue of a pharyngeal wall of said patient, said method comprising: selecting an implant sized to be implanted into said tissue of said pharyngeal wall, said implant having characteristics for said implant, at least in tissue of said pharyngeal wall of said patient, to stiffen said tissue of said pharyngeal wall; implanting said implant into said tissue of said pharyngeal wall to stiffen said tissue. 2. A method according to claim 1 wherein said implant is a bolus of a particulate material selected for limited migration within said tissue and for encouraging a fibrotic response of tissue to said material. 3. A method according to claim 2 wherein said particulate material is carried in a fluid carrier. 4. A method according to claim 1 wherein said upper airway condition is snoring. 5. A method according to claim 1 wherein said upper airway condition is sleep apnea.
4USC2	10/394,887	3/21/03	6,742,524	6/1/04	1. A method for treating an upper airway condition of a patient, said method comprising: selecting an implant sized to be implanted into a tissue of a pharyngeal wall of said patient, said implant including a longitudinal permanent implant of biocompatible material selected to stiffen said tissue of said pharyngeal wall; and implanting said implant into said tissue of said pharyngeal wall to stiffen said tissue. 2. A method according to claim 1 wherein said implant is a braid of biocompatible

					fibers. 3. A method according to claim 2 wherein said implant material is selected to induce a fibrotic response from said tissue. 4. A method according to claim 1 wherein said implant is a bolus of a particulate material selected for limited migration within said tissue. 5. A method according to claim 4 wherein said implant material is selected to induce a fibrotic response from said tissue. 6. A method according to claim 1/wherein said upper airway condition is sleep apnea. 7. A method for treating an upper airway condition of a patient, said method comprising: selecting an implant sized to be implanted into a tissue of a nasal area of said patient, said implant having characteristics for said implant, at least in tissue of said nasal area, to stiffen said tissue of said nasal area; and implanting said implant into said tissue of said nasal area to stiffen said tissue. 8. A method according to claim 7 wherein said implant is a braid of biocompatible fibers. 9. A method according to claim 7 wherein said implant is a bolus of a particulate material selected for limited migration within said tissue. 10. A method according to claim 7 wherein said upper airway condition is snoring. 11. A method according to claim 7 wherein said upper airway condition is sleep apnea.

4USC3	10/629,145	7/29/03	6,971,396	12/6/05	1. A method for treating obstructive sleep apnea, said method comprising: identifying a patient as having obstructive sleep apnea; selecting an implant sized to be implanted into a soft palate of said patient, said implant having characteristics for said implant to stiffen said soft palate; implanting said implant into said tissue of said soft palate to stiffen said soft palate. 2. A method according to claim 1 wherein said implant is a bolus of a particulate material selected for limited migration within said tissue and for encouraging a fibrotic response of tissue to said material. 3. A method according to claim 1 wherein said implant is a longitudinal implant of biocompatible material. 4. A method according to claim 3 wherein said implant is a braid of biocompatible fibers. 5. A method according to claim 1 wherein said implant is selected to induce a fibrosis and said stiffening is associated at least in part with said fibrosis.
4USC4	10/825,029	4/14/04	Pending		1. A method for treating an upper airway condition of a patient, said method comprising: selecting an implant sized to be implanted into a tissue of a pharyngeal wall of said patient, said implant being formed of a material selected to induce a fibrotic response of material amount and having mechanical characteristics for said implant to passively, and without application of external energy, resist deflection of said wall and urge a deflected tissue to return to a rest state; and implanting said implant into said tissue of said pharyngeal wall. 2. A method according to claim 1 wherein said implant is metal. 3. A method according to claim 2 wherein said metal is nitinol.

					4. A method according to claim 1 wherein said implant has tissue in-growth areas. 5. A method according to claim 1 wherein said condition is obstructive sleep apnea. 6. A method according to claim 1 wherein said implant is not connected to a bony structure. 7–10. (Cancelled)
4USC5	10/825,249	4/14/04	Pending		1. A method for treating an upper airway condition of a patient, said method comprising: selecting an implant of biocompatible fibers, said implant being sized for implantation into a soft tissue area of said patient, said biocompatible fibers being selected to stiffen said soft tissue area; and implanting said implant into said soft tissue area to stiffen said soft tissue area for treatment of said upper airway condition. 2. A method according to claim 1 wherein said implant is a braid of biocompatible fibers. 3. A method according to claim 1 wherein said implant is a twisted construction of biocompatible fibers. 4. A method according to claim 1 wherein said implant is a bolus of a particulate material selected for limited migration within said soft tissue area. 5. A method according to claim 4 wherein said biocompatible fibers are selected to induce a fibrotic response from said soft tissue area.

					6. A method according to claim 1 wherein said biocompatible fibers are selected to induce a fibrotic response from said soft tissue area. 7. A method according to claim 1 wherein said upper airway condition is sleep apnea. 8. A method according to claim 1 wherein said upper airway condition is snoring. 9. A method according to claim 1 wherein said implant is an elongated construction of biocompatible fibers. 10. A method according to claim 1 wherein said soft tissue area includes tissue located in a pharyngeal wall of said patient. 11. A method according to claim 1 wherein said soft tissue area includes tissue located in a nasal area of said patient. 12. A method according to claim 1 wherein said implant is a permanent implant.
4USC6	11/197,271	8/3/05	Pending		1-12. (Cancelled) 13. An apparatus to brace or fixate tissue in targeted pharyngeal structures and/or individual anatomic components within the pharyngeal conduit to treat obstructive sleep apnea comprising a material including one or more liquid components that is injected into tissue as a liquid or slurry and that sets in situ to create a non-liquid mechanical implant structure. 14. A system comprising at least two apparatuses, at least one of the apparatuses comprising an apparatus as defined in claim 13. 15. A method for implanting an apparatus in targeted pharyngeal structures and/or

					individual anatomic components within the pharyngeal conduit to treat obstructive sleep apnea comprising the steps of providing at least one apparatus as defined in claim 13, and injecting the apparatus in targeted pharyngeal structures and/or individual anatomic components within the pharyngeal conduit.

Patents And Applications With Entire Disclosure Claiming Priority To Ser. No. 10/066,967 Filed February 4, 2002

Docket Suffix (Prefix 13033)	Serial No.	Filing Date	Patent No.	Issue Date	Claims
5US01	10/066,967	2/4/02	Pending		1. (Canceled). 2. A method for treating a pharyngeal airway having a pharyngeal wall of a patient at least partially surrounding and defining said airway, said method comprising: inserting an expander member into said airway and positioning an active portion of said expander member in an interior of said airway and external to a tissue of said pharyngeal wall and in opposition to an airway-defining tissue of portions of said wall to be treated; activating said expander member to urge against said airway-defining tissue of said portions to urge said portions to an outwardly displaced position; deactivating said expander member while leaving said portions in said outwardly placed position; removing said expander member from said airway; and wherein said activating of said expander member creates an area of compressed tissue of said patient adjacent said portions and said method further comprising injecting a biocompatible tissue stabilizer into said compressed tissue while said portions are in said outwardly placed positions. 3. A method according to claim 2 wherein said tissue stabilizer is an adhesive and

					said removing of said expander member occurs after at least initial setting of said adhesive. 4. A method according to claim 2 wherein said tissue stabilizer is a fibrosis-inducing agent and said injecting includes injecting ~~a~~ said fibrosis-inducing agent into said compressed tissue to induce a fibrotic response from said compressed tissue. 5. A method according to claim 3 wherein said fibrosis-inducing agent is substantially non-biodegradable for said agent to induce a chronic fibrotic response. 6. A method according to claim 5 wherein said fibrosis-inducing agent is a bolus of particulate material. 7. A method for treating a pharyngeal airway having a pharyngeal wall of a patient at least partially surrounding and defining said airway, said method comprising: inserting an expander member into said airway and positioning an active portion of said expander member in an interior of said airway and external to a tissue of said pharyngeal wall and in opposition to an airway-defining tissue of portions of said wall to be treated; activating said expander member to urge against said airway-defining tissue of said portions to urge said portions to an outwardly displaced position; deactivating said expander member while leaving said portions in said outwardly placed position; removing said expander member from said airway; and injecting a fibrosis-inducing agent into said compressed tissue to induce a fibrotic response from said compressed tissue. 8. A method according to claim 7 wherein said fibrosis-inducing agent is substantially non-biodegradable for said agent to induce a chronic fibrotic response. 9. A method according to claim 8 wherein said fibrosis-inducing agent is a bolus of

					particulate material. 10-11. (Canceled). 12. A method for treating a pharyngeal airway having a pharyngeal wall of a patient at least partially surrounding and defining said airway, said method comprising: stabilizing at least a portion of said pharyngeal wall against underlying structure by securing said portion of said pharyngeal wall to said structure to resist inward collapse of said pharyngeal wall; and wherein said stabilization includes mechanically securing said portion to said structure; wherein said stabilization includes suturing said portion to said structure. 13 – 16. (Canceled). 17. A method for treating a pharyngeal airway having a pharyngeal wall of a patient at least partially surrounding and defining said airway, said method comprising: compressing at least a portion of a tissue of said pharyngeal wall to a compressed state; stabilizing said portion of said tissue in said compressed state; wherein said stabilization includes mechanically securing said portion to a structure underlying said wall; and wherein said stabilization includes suturing said portion to a structure underlying said wall. 18 – 21. (Canceled). 22. An apparatus for treating a pharyngeal airway having a pharyngeal wall of a patient at least partially surrounding and defining said airway, said method comprising; an expander member dimensioned so as to be inserted into said airway with

					an active portion of said expander member positioned in an interior of said airway and external to a tissue of said pharyngeal wall and in opposition to an airway-defining tissue of portions of said wall to be treated; an activator for activating said expander member to urge against said airway-defining tissue of said portions to urge said portions an outwardly displaced position; said expander member adapted to be deactivated while leaving said portions in said outwardly placed position; said expander member further dimensioned so as to be removable from said airway; and an injector for injecting a fibrosis-inducing agent into compressed tissue adjacent said portions while said portions are in said outwardly placed positions. 23. An apparatus according to claim 22 wherein said fibrosis-inducing agent is substantially non-biodegradable. 24. An apparatus according to claim 23 wherein said expander member carries a bolus of a particulate material as said fibrosis-inducing agent.

Patents And Applications With A Portion Of The Disclosure Claiming Priority To Ser. No. 10/066,967 Filed February 4, 2002

Docket Suffix (Prefix 13033)	Serial No.	Filing Date	Patent No.	Issue Date	Claims
5USI1	10/237,149	9/6/02	7,017,582	3/28/06	1. A method for treating obstructive sleep apnea of a patient by treating a pharyngeal airway having a pharyngeal wall at least partially surrounding and defining said airway, said method comprising: selecting an implant dimensioned so as to be implanted at a mucosal layer of said pharyngeal wall, said implant having a longitudinal dimension;

					said implant having mechanical characteristics for said implant to stiffen said pharyngeal wall to resist radial collapse; and implanting said implant into said pharyngeal wall with said longitudinal dimension extending at least partially around said pharyngeal wall, transverse to a longitudinal axis of said pharyngeal airway. 2. A method according to claim 1 wherein multiple ones of said implant are implanted transverse to said longitudinal axis with said multiple ones spaced along said axis. 3. A method according to claim 2 wherein said support members are disconnected from one another. 4. A method according to claim 2 wherein said implants are implanted within a tissue layer of said pharyngeal wall. 5. A method according to claim 4 wherein said implants are imbedded within said tissue layer disconnected from a boney structure. 6. A method according to claim 1 wherein said implant is placed within a tissue layer of said pharyngeal wall. 7. A method according to claim 6 comprising: selecting an implant having a longitudinal dimension and a narrower transverse dimension and said implant being flexible along said longitudinal dimension, said implant further dimensioned so as to not substantially increase a bulk of pharyngeal wall following implantation of said implant into said pharyngeal wall; and implanting said implant within said pharyngeal wall with said longitudinal dimension extending in a path at least partially circumferentially surrounding said longitudinal axis of said airway.

					8. A method according to claim 1 wherein said support member is elastic. 9. A method according to claim 1 wherein said support member includes a surface adapted for tissue in-growth. 10. A method according to claim 1 wherein said implant is selected for said implant, after implantation, to resist an upper airway suction closing pressure. 11. A method according to claim 10 wherein said implant is selected to resist a pressure of about 4.4 cm H_2O. 12. A method according to claim 1 wherein said implant is implanted at a retropalatal region of said airway. 13. A method according to claim 1 wherein said implant is implanted at a retroglossal region of said airway. 14. An apparatus for treating obstructive sleep apnea of a patient by treating a pharyngeal airway having a pharyngeal wall at least partially surrounding and defining said airway, said apparatus comprising: an implant of bio-compatible material dimensioned so as to be embedded within said pharyngeal wall airway at a muscosal layer of said pharyngeal wall; said implant including an array of support members; said support members selected to stiffen said pharyngeal wall after implantation in said pharyngeal wall, to resist radial collapse of said wall. 15. An apparatus according to claim 14 wherein said implant is flexible along a longitudinal dimension. 16. An apparatus according to claim 15 wherein said implant includes a surface

					adapted for tissue in-growth. 17. An apparatus according to claim 16 wherein at least an outer surface of said implant is a polyester. 18. An apparatus according to claim 14 wherein said implant is elastic. 19. An apparatus according to claim 14 wherein said implant includes a radiopaque marking. 20. An apparatus according to claim 14 wherein said implant is adapted to be placed within said pharyngeal wall. 21. An apparatus according to claim 14 wherein said support members are disconnected from one another. 22. A method for treating obstructive sleep apnea of a patient by treating a pharyngeal airway having a pharyngeal wall at least partially surrounding and defining said airway, said method comprising: selecting an implant dimensioned so as to be implanted at a mucosal layer of said pharyngeal wall, said implant having a longitudinal dimension; said implant having mechanical characteristics for said implant to stiffen said pharyngeal wall to resist radial collapse; selecting a site in the pharyngeal wall susceptible to collapse; and implanting said implant into said pharyngeal wall with said longitudinal dimension extending substantially parallel to an axis of said pharyngeal airway. 23. A method according to claim 22 wherein multiple ones of said implant are implanted substantially parallel to said longitudinal axis with said multiple ones spaced along a circumference of said pharyngeal wall.

					24. A method according to claim 22 wherein said implant is implanted beneath said mucosal layer. 25. A method according to claim 22 wherein said support member is elastic. 26. A method according to claim 22 wherein said support member includes a surface adapted for tissue in-growth. 27. A method according to claim 22 further comprising placing multiples of said support members spaced apart axially relative to an axis of said pharyngeal airway. 28. A method according to claim 22 wherein said support members are disconnected from one another. 29. A method for treating obstructive sleep apnea of a patient by treating a pharyngeal airway having a pharyngeal wall at least partially surrounding and defining said airway, said method comprising: selecting an implant dimensioned so as to be implanted at a mucosal layer of said pharyngeal wall and with said implant having a surface area; said implant having mechanical characteristics for said implant to stiffen said pharyngeal wall to resist radial collapse; and implanting said implant into said pharyngeal wall with said surface area extending both longitudinally and transversely at least partially around an axis of said pharyngeal airway.
5USC1	10/825,483	4/14/04	Pending		1. A method for treating a pharyngeal airway having a pharyngeal wall of a patient at least partially surrounding and defining said airway, said method comprising: selecting an implant dimensioned so as to be implanted within said pharyngeal airway; said implant having a mechanical characteristic of elasticity to be biased toward a rest position; placing said implant into said airway with said implant biasing said airway to

					patency; and wherein said implant has a longitudinal a component with a longitudinal axis and said implant is placed with said axis extending transverse to an axis of said pharyngeal airway. 2. A method according to claim 1 wherein said implant is placed beneath a mucosal surface of said pharyngeal wall. 3. A method according to claim 1 wherein said implant includes a fibrosis-inducing material. 4. A method according to claim 1 wherein said implant is a polyester. 5. (Canceled). 6. A method according to claim 5 wherein said implant is curved to conform to a curvature of said airway. 7. A method according to claim 1 wherein said implant has a longitudinal axis and said implant is placed with said axis extending parallel to an axis of said pharyngeal airway. 8. A method according to claim 1 wherein said implant is not connected to a bony structure. 9. An apparatus for treating a pharyngeal airway having a pharyngeal wall of a patient at least partially surrounding and defining said airway, said apparatus comprising: an implant dimensioned so as to be implanted within said pharyngeal airway; said implant has a longitudinal component with a longitudinal axis and said implant is placed with said axis extending transverse to an axis of said pharyngeal

					airway; and said implant having a mechanical characteristic of elasticity to be biased toward a rest position selected to bias said airway to patency. 10. An apparatus according to claim 9 wherein said implant is adapted to be placed beneath a mucosal surface of said pharyngeal wall. 11. An apparatus according to claim 9 wherein said implant includes a fibrosis-inducing material. 12. An apparatus according to claim 9 wherein said implant is a polyester. 13. (Canceled). 14. An apparatus according to claim 13 wherein said implant is curved to conform to a curvature of said airway. 15. An apparatus according to claim 9 wherein said implant has a longitudinal axis and said implant is adapted to be placed with said axis extending parallel to an axis of said pharyngeal airway.
5USC2	11/179,184	7/12/05	Pending		1-15 (cancelled) 16. An apparatus for treating at least one of sleep apnea and snoring in a human or an animal having an oropharyngeal region and an epiglottis, the apparatus comprising: an appliance sized and structured to be placed in a given position in the oropharyngeal region, other than to facilitate a surgical procedure, and being effective in treating at least one of sleep apnea and snoring, the appliance being further effective, when so placed, to provide at least one additional benefit relative to a device sized and structured for placement in a position in a human or animal other than in the given position in the oropharyngeal region when the device is placed in

					the given position in the oropharyngeal region. 17. The apparatus of claim 16 wherein the appliance is sized so that, when so placed in the given position in the oropharyngeal region, the appliance is located substantially entirely in the oropharyngeal region. 18. The apparatus of claim 16 wherein the at least one benefit comprises an enhanced compliance of the appliance with the functioning of at least one of the oropharyngeal region and the epiglottis. 19. The apparatus of claim 16 wherein the at least one benefit comprises an enhanced ability of the appliance to do at least one of provide support against collapse of the oropharyngeal region during sleep, and allow closure of an airway in the oropharyngeal region during swallowing. 20. The apparatus of claim 16 wherein the at least one benefit comprises an enhanced ability of the appliance to be tolerated by the human or animal in the given position. 21. The apparatus of claim 16 wherein the appliance has an effective non-constrained diameter of at least about 32 mm. 22. The apparatus of claim 16 wherein the appliance comprises a member defining a substantially C-shaped configuration. 23. The apparatus of claim 16 wherein the appliance, when located outside a human or animal, comprises a substantially flat member. 24. The apparatus of claim 16 wherein the appliance is sized and structured to permit substantially natural movement of the epiglottis when the appliance is located in the given position in the oropharyngeal region of the human or animal. 25. The apparatus of claim 16 wherein the appliance includes spaced apart, radiused

					end portions. 26. The apparatus of claim 16 wherein the appliance includes end portions and is further sized and structured, when the appliance is located in the given position, to be positioned against a portion of a posterior wall of the oropharyngeal region with the end portions being spaced apart anteriorly of the posterior wall. 27. The apparatus of claim 16 wherein the appliance comprises a member having a substantially elliptical configuration. 28. The apparatus of claim 16 wherein the appliance includes spaced apart end portions and a length defined between the end portions, and the appliance comprises a plurality of struts extending along at least a substantial portion of the length. 29. The apparatus of claim 16 wherein the appliance comprises a cuff-shaped member. 30. The apparatus of claim 29 wherein the cuff-shaped member includes spaced apart end portions. 31. The apparatus of claim 30 wherein the cuff-shaped member is sized and structured to be positioned against a portion of a posterior wall of the oropharyngeal region with the end portions spaced apart by a portion of an anterior wall of the oropharyngeal region. 32. An apparatus for treating a human or animal having a pharyngeal region, the apparatus comprising: an appliance sized and structured to be placed, at least partially submucosally, within the pharyngeal region of the human or animal and to be effective, when so placed, to maintain patency of the pharyngeal region during natural sleep of the human or animal. 33. The apparatus of claim 32 wherein the appliance is structured to be effective in

					treating at least one of sleep apnea and snoring. 34. The apparatus of claim 32 wherein the appliance is structured to be effective in treating sleep apnea. 35. The apparatus of claim 32 wherein the appliance is structured to be placed in an oropharyngeal region. 36. The apparatus of claim 32 wherein the appliance is sized to be placed at least partially circumscribing an interior hollow passage defined by the pharyngeal region. 37. The apparatus of claim 32 wherein the appliance is sized to be placed at least partially circumscribing an interior hollow passage defined by an oropharyngeal region. 38. The apparatus of claim 32 wherein the appliance is sized to be placed circumscribing an interior hollow passage defined by the pharyngeal region. 39. The apparatus of claim 32 wherein the appliance is sized to be placed circumscribing, at least once, an interior hollow passage defined by the pharyngeal region. 40. The apparatus of claim 32 wherein the appliance comprises at least one elongated element. 41. The apparatus of claim 32 wherein the appliance comprises a single elongated element. 42. The apparatus of claim 32 wherein the appliance comprises at least one elongated element having a polygonal cross-section. 43. The apparatus of claim 32 wherein the appliance comprises at least one elongated

					element having a rounded cross-section. 44. The apparatus of claim 32 wherein the appliance is structured to be substantially entirely submucosally placed within the pharyngeal region. 45. The apparatus of claim 32 wherein the pharyngeal region has right and left lateral walls, and the appliance is structured to be implanted, at least partially submucosally, within the pharyngeal region, such that the appliance at least partially traverses the right and left lateral walls. 46. The apparatus of claim 32 wherein the pharyngeal region has right and left lateral walls, and the appliance is structured to be implanted, substantially entirely submucosally, within the pharyngeal region, such that the appliance at least partially traverses the right and left lateral walls. 47. An apparatus for treating at least one of sleep apnea and snoring in a human or an animal having an oropharyngeal region and an epiglottis, the apparatus comprising: an appliance sized and structured to be placed in a position in the oropharyngeal region in proximity to the epiglottis, other than to facilitate a surgical procedure, and to be effective in treating at least one of sleep apnea and snoring. 48. The apparatus of claim 47 wherein the appliance is structured to be at least partially submucosally placed in the oropharyngeal region. 49. The apparatus of claim 47 wherein the appliance is structured to be substantially entirely submucosally placed in the oropharyngeal region. 50. The apparatus of claim 47 wherein the appliance is structured to cause tissue stiffening when the appliance is placed in the position in the oropharyngeal region. 51. The apparatus of claim 47 wherein the oropharyngeal region has lateral walls and the appliance is structured, when so placed in the position, to support lateral walls of

					the oropharyngeal region against collapse during natural sleep, and to allow closure of an airway in the oropharyngeal region during swallowing. 52. The apparatus of claim 47 wherein the appliance comprises a member defining a substantially C-shaped configuration. 53. The apparatus of claim 47 wherein the appliance, when located outside a human or animal, comprises a substantially flat member. 54. The apparatus of claim 47 wherein the appliance is sized to permit substantially natural movement of the epiglottis when the apparatus is located in the position. 55. The apparatus of claim 47 wherein the appliance includes spaced apart, radiused end portions. 56. The apparatus of claim 47 wherein the appliance includes spaced apart end portions and is further sized and structured to be positioned against a portion of a posterior wall of the oropharyngeal region with the end portions spaced apart by a portion of an anterior wall of the oropharyngeal region. 57. The apparatus of claim 47 wherein the appliance has a resiliency and flexibility to allow natural functioning of the oropharyngeal region during swallowing and a hoop strength effective to support the oropharyngeal region against collapse during natural sleep. 58. An apparatus for treating at least one of sleep apnea and snoring in a human or an animal having an oropharyngeal region including lateral walls and an epiglottis, the apparatus comprising: an appliance sized and structured to be placed in a position in the oropharyngeal region in proximity to the epiglottis, other than to facilitate a surgical procedure, and being effective in treating at least one of sleep apnea and snoring, the appliance being structured, when placed in the position in the oropharyngeal region, to support the lateral walls of the oropharyngeal region against

					collapse during the time the human or animal is naturally sleeping. 59. The apparatus of claim 58 wherein the appliance is sized so that, when placed in the position in the oropharyngeal region, the appliance is located substantially entirely in the oropharyngeal region. 60. A method for treating at least one of sleep apnea and snoring in a human or an animal having an oropharyngeal region, a valecullar space and an epiglottis, the method comprising: providing an appliance in the oropharyngeal region of the human or animal, the appliance located in the oropharyngeal region being effective in treating at least one of sleep apnea and snoring during natural sleep of the human or animal. 61. The method of claim 60 wherein the appliance, when located in the oropharyngeal region, is effective in maintaining patency of the oropharyngeal region during natural sleep of the human or animal without causing substantial interference with at least one natural function of the epiglottis. 62. The method of claim 60 wherein the step of providing includes inserting the appliance into the oropharyngeal region while the appliance is in a first configuration and allowing the appliance to reconfigure to a second configuration within or in proximity to the oropharyngeal region. 63. The method of claim 60 wherein the step of providing includes inserting the appliance into the oropharyngeal region through a mouth of the person or animal. 64. An apparatus for maintaining patency of a human or animal oropharyngeal region having lateral walls, in order to control at least one of sleep apnea and snoring, the apparatus comprising: an appliance comprising a body portion and end portions spaced apart by the body portion, the appliance being structured to take on a deployed configuration when located within the oropharyngeal region, such that the end portions are spaced apart from each other anteriorly of a posterior wall of the

					oropharyngeal region, and the appliance being further structured to exert a force on the lateral walls of the oropharyngeal region, when the appliance is in the deployed configuration within the oropharyngeal region, in order to cause the oropharyngeal region to be maintained substantially unobstructed. 65. The apparatus of claim 64 wherein the end portions are coupled together only through the body portion. 66. The apparatus of claim 64 wherein the appliance is structured to form a relatively flat configuration when the appliance is at rest outside the human or animal. 67. A method for maintaining patency of a pharyngeal region of a human or an animal during natural sleep, the method comprising the steps of: providing a member in a substantially flat or precurved configuration, the member having a body portion and end portions spaced apart by the body portion; and implanting the member, at least partially submucosally, within the pharyngeal region. 68. The method of claim 67 wherein the pharyngeal region has right and left lateral walls, and the member is effective to provide a substantially constant force against at least a portion of each of the right and left lateral walls. 69. The method of claim 67 wherein the step of implanting comprises implanting the member into pharyngeal region such that the member is substantially entirely submucosally implanted in the pharyngeal region. 70. A method for maintaining patency of a pharyngeal region of a human or an animal during natural sleep and for purposes other than surgery, the method comprising the steps of: causing a tissue reaction of a pharyngeal region of a human or animal patient, said tissue reaction being effective in at least one of strengthening and stiffening lateral walls of the pharyngeal region. 71. The method of claim 70 wherein the step of causing a tissue reaction comprises

					applying an active agent to the lateral walls. 72. The method of claim 70 wherein the step of causing a tissue reaction comprises placing at least one member into the lateral walls. 73. A method for maintaining patency or causing to become patent, open or unobstructed, an pharyngeal region of a human or an animal during natural sleep and for purposes other than surgery, the method comprising the steps of: suturing portions of the pharyngeal region of a human or animal, said suturing being effective in at least one of strengthening and stiffening lateral walls of the pharyngeal region.
5USC3	11/196,690	8/3/05	Pending		1–24. (Cancelled) 25. An apparatus comprising a structure sized and configured for implantation in tissue within a pharyngeal wall, the structure including a region sized and configured to accommodate fixation of the structure to at least one vertebra. 26. An apparatus according to claim 25, wherein the structure comprises a plastic material, and/or a metal material, and/or a fabric material, and/or a ceramic material, or a combination thereof. 27. An apparatus according to claim 25, wherein the structure comprises a static material. 28. An apparatus according to claim 25, wherein the structure comprises a dynamic material. 29. An apparatus according to claim 25, wherein the structure comprises a dynamic material. 30. An apparatus according to claim 25, wherein the structure comprises a material

					having a spring-like mechanical property. 31. An apparatus according to claim 25, wherein the structure comprises a material having an elastic mechanical property. 32. An apparatus according to claim 25, wherein the structure includes at least one ferromagnetic material. 33. An apparatus according to claim 25, wherein the structure comprises a shape memory material. 34. An apparatus according to claim 25, wherein the structure comprises a shape memory ferromagnetic material. 35. An apparatus according to claim 25, wherein the structure comprises a thermal shape memory material. 36. An apparatus according to claim 25, wherein the structure comprises a material that assumes a desired mechanical condition in response to exposure to an activation force. 37. An apparatus according to claim 36, wherein the activation force includes a magnetic field, or temperature condition, or electrical energy, or electromagnetic energy, or a combination thereof. 38. An apparatus according to claim 25, wherein the structure includes at least one hinge point. 39. An apparatus according to claim 25, wherein the structure comprises a material implanted by injection.

					40. An apparatus according to claim 25, wherein the region accommodates a bone screw. 41. An apparatus according to claim 25, wherein the region accommodates an adhesive and/or cement. 42. An apparatus according to claim 25, wherein the structure includes a material that braces tissue in the pharyngeal wall against collapse. 43. An apparatus according to claim 25, wherein the structure includes a material that fixates tissue in the pharyngeal wall against collapse. 44. An apparatus according to claim 25, wherein the structure braces tissue in the pharyngeal wall against collapse. 45. An apparatus according to claim 25, wherein the structure fixates tissue in the pharyngeal wall against collapse. 46. A system comprising at least two apparatuses, at least one of the apparatuses comprising an apparatus as defined in claim 25. 47. A system according to claim 46, wherein at least two of the apparatuses comprise an apparatus as defined in claim 25. 48. A method for implanting an apparatus in a pharyngeal wall comprising the steps of providing at least one apparatus as defined in claim 25, and implanting the apparatus in a pharyngeal wall including a fixation step in which the apparatus is secured to at least one vertebra. 49. A method of implanting an apparatus in a pharyngeal wall comprising the steps of providing an apparatus as defined in claim 25, creating an incision to expose an

					anterior aspect of a cervical vertebra, inserting the apparatus through the incision, which is then tunneled submucosally along a pharyngeal wall into a desired orientation, releasing the apparatus, and fixing the apparatus to the vertebra. 50. An apparatus to brace or fixate tissue in targeted pharyngeal structures and/or individual anatomic components within the pharyngeal conduit comprising a kinetic structure sized and configured with a desired shape by virtue of magnetic forces that provide magnetic field resistance to shape change. 51. An apparatus according to claim 50, wherein the kinetic structure is selectively activated to assume the desired shape. 52. An apparatus according to claim 50, wherein the structure includes a ferromagnetic material mounted on a carrier. 53. An apparatus according to claim 52, wherein the carrier comprises a plastic material, and/or a metal material, and/or a fabric material, and/or a ceramic material, or a combination thereof. 54. A method for implanting an apparatus to brace or fixate tissue in targeted pharyngeal structures and/or individual anatomic components within the pharyngeal conduit comprising the steps of providing at least one apparatus as defined in claim 50, and implanting the apparatus. 55. An apparatus to brace or fixate tissue in targeted pharyngeal structures and/or individual anatomic components within the pharyngeal conduit comprising a kinetic structure including a shape memory ferromagnetic material that provides resistance to shape change. 56. An apparatus according to claim 55, wherein the shape memory ferromagnetic material is mounted on a carrier.

					57. An apparatus according to claim 56, wherein the carrier comprises a plastic material, and/or a metal material, and/or a fabric material, and/or a ceramic material, or a combination thereof. 58. A method for implanting an apparatus to brace or fixate tissue in targeted pharyngeal structures and/or individual anatomic components within the pharyngeal conduit comprising the steps of providing at least one apparatus as defined in claim 55, and implanting the apparatus.

Patents And Applications Claiming Priority, In Whole Or Part, To Ser. No. 10/698,818 Filed October 31, 2003

Docket Suffix (Prefix 13033)	Serial No.	Filing Date	Patent No.	Issue Date	Claims
12US01	10/698,819	10/31/03	Pending		1. A method for treating a condition of a patient's airway wherein said condition is attributed at least in part to a spacing of a tissue from opposing surfaces in said airway; said method comprising: placing a tissue contractor within said tissue within an upper airway of said patient, said contractor including a static end and a tissue-engaging end; securing said static end to a bony structure adjacent said tissue and securing said tissue-engaging end to said tissue and spaced from said bony structure; contracting a spacing between said tissue-engaging end and bony structure. 2. A method according to claim 1 wherein said contracting includes shortening a length of said contractor between tissue-engaging end and said static end after at least partially securing said tissue-engaging end to said tissue. 3. A method according to claim 2 wherein said shortening includes pulling on said

					contractor near said bony structure and securing said contractor to said bony structure at said static end with said tissue under tension. 4. A method according to claim 2 wherein said shortening includes securing said contractor to said bony structure at said static end and then contracting a spacing between said tissue-engaging end and said static end to create a tension in said tissue. 5. A method according to claim 4 wherein said contractor includes a tensioning member between said static end and said tissue-engaging end with said tensioning member retained in a stretched state by a bio-resorbable member selected to resorb after placement of said contractor in said tissue. 6. A method according to claim 1 wherein said tissue is a soft palate of said patient and said bony structure is a hard palate of said patient. 7. A method according to claim 1 wherein said tissue is a tongue of said patient and said bony structure is a jaw of said patient. 8. A method according to claim 1 wherein said condition is snoring. 9. A method according to claim 1 wherein said condition is sleep apnea. 10. An apparatus for treating a condition of a patient's airway wherein said condition is attributed at least in part by a spacing of a tissue from opposing surfaces in said airway; said apparatus comprising: a tissue contractor dimensioned so as to be placed within said tissue within an upper airway of said patient, said contractor including a static end and a tissue-engaging end; said static end adapted to be secured to a bony structure adjacent said tissue; said tissue-engaging end adapted to secure to said tissue; said contractor adapted to contract a spacing between said tissue-engaging end

					and said bony structure. 11. An apparatus according to claim 10 comprising an attachment for securing said static end to said bony structure after pulling on said contractor near said bony structure and securing said contractor to said bony structure at said static end with said tissue under tension. 12. An apparatus according to claim 10 wherein said contractor has a spacing between said tissue-engaging end and said static end which is reducible after said tissue-engaging end is secured to said tissue to create a tension in said tissue. 13. An apparatus according to claim 12 wherein said contractor includes a tensioning member between said static end and said tissue-engaging end with said tensioning member retained in a stretched state by a bio-resorbable member selected to resorb after placement of said contractor in said tissue. 14. An apparatus according to claim 10 wherein said tissue is a soft palate of said patient and said bony structure is a hard palate of said patient. 15. An apparatus according to claim 10 wherein said tissue is a tongue of said patient and said bony structure is a jaw of said patient. 16. An apparatus according to claim 10 wherein said condition is snoring. 17. An apparatus according to claim 10 wherein said condition is sleep apnea. 18. A method for treating a condition of a patient's airway wherein said condition is attributed at least in part to a spacing of a base of a tongue from opposing surfaces of a pharyngeal wall of said airway; said method comprising: placing a tissue contractor within said tongue in close proximity to said base of said tongue, said contractor selected to induce a contracting fibrosis to a

					material of said contractor. 19. A method for treating a condition of a patient's airway wherein said condition is attributed at least in part to a spacing of a base of a tongue from opposing surfaces of a pharyngeal wall of said airway; said method comprising: placing an implant within said tongue in close proximity to said base of said tongue, said implant have a relaxed shape and an implanted shape and having tissue in-growth areas; implanting said implant for tissue to fix to said implant at a plurality of points and reshape said tongue base after re-shaping of said implant to said rest shape. 20. A method for treating a condition of a patient's airway wherein said condition is attributed at least in part to a spacing of a base of a tongue from opposing surfaces of a pharyngeal wall of said airway; said method comprising: placing a tissue contractor within said tongue with a contracting axis of said contractor aligned with an axis of a genioglossus muscle.
12USI1	10/877,003	6/24/04	Pending		1. A method for treating a condition of a patient's airway wherein said condition is attributed at least in part to a spacing of a base of a tongue from an opposing surfaces of a pharyngeal wall in said airway; said method comprising: selecting a deformable clamp having a first geometry sized to be placed with an interior of the tongue near said base, said clamp deformable to a second geometry following placement to draw tissue-engaging surfaces of said clamp toward one another; placing said clamp with said first geometry within said tongue near said base; and deforming said clamp to said second geometry with said tissue-engaging surfaces crimping tissue of said tongue. 2. A method for treating a condition of a patient's airway, said method comprising: implanting a lever into said patient with a first end disposed abutting a fulcrum in a throat of said patient and with a force transmitting portion disposed opposing a posterior side of a hyoid bone of said patient, a tensioner for urging said force

					transmitting portion toward a jawbone of said patient. 3. A method according to claim 2 wherein said lever is a cable. 4. A method for treating a condition of a patient's airway, said method comprising: implanting a lever into said patient with a first end disposed secured near an epiglottis cartilage of said patient and second end disposed connected to a jawbone of said patient. 5. A method for treating a condition of a patient's airway wherein said condition is attributed at least in part to a spacing of a tongue from opposing surfaces in said airway; said method comprising: placing a tissue tensioner within said tongue, said tensioner including an anterior end and a posterior end joined by a tension member; securing said anterior end to tissue of said tongue proximate to a jaw of said patient and securing said posterior end to tissue of said tongue proximate to a base of said tongue. 6. A method according to claim 5 including shortening a length of said tensioner between said anterior and posterior ends. 7. A method according to claim 6 wherein said tensioner includes a tensioning member between said anterior and posterior ends with said tensioning member retained in a stretched state by a bio-resorbable member selected to resorb after placement of said tensioner in said tissue. 8. A method according to claim 5 wherein said condition is snoring. 9. A method according to claim 5 wherein said condition is sleep apnea. 10. A method for treating a condition of a patient's airway wherein said condition is

					attributed at least in part to a reduced stiffness of a base of a tongue; said method comprising: placing a plurality of stiffening members within said tongue in close proximity to said base of said tongue. 11. A method according to claim 10 wherein said stiffening members are selected to induce a contracting fibrosis to a material of said contractor. 12. A method according to claim 11 wherein said stiffening members are spaced apart for fibrosis to interconnect between said members.